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COMMENTS ON THE RECOMMENDATIONS OF
THE BOMBAY MUNICIPAL CORPORATION
REGARDING RE-VACCINATION.

(Communicated.)

1. All through the recommendations the point is emphasized that there are no re-vaccinated cases of smallpox in the Bombay Smallpox hospital. Is it not obvious that if re-vaccination is not practised, there can be no re-vaccinated patients ?

2. Although there may be no admittedly re-vaccinated patients in Bombay, in other parts of the world re-vaccination does not save people from taking smallpox, nor from dying of the disease. In the last serious London outbreak of smallpox (1901-2) there were 276 admittedly re-vaccinated cases, of whom 27 died.

3. But the statistics furnished by the Medical Officer in these reports, and the inferences from those statistics, cannot be accepted by serious investigators of the subject, for the Medical Officer himself remarks "that no separate records of those vaccinated secondarily have been kept, but *practically* there was hardly any case amongst them of those who had undergone secondary vaccination." What can we think of statistics supplied in this slipshod manner ? For 9 or 10 years the figures are given, and then the Medical Officer relies on his memory and asserts that "practically there was hardly

any case" among the re-vaccinated. It is not as if the cases were few in number or spread over a short period; there are over 2,000 and they spread over 9 or 10 years. How can the Medical Officer be sure about the matter when he has to rely on his memory? He qualifies his assertion by the word "practically," but the Committee of the Corporation go farther and state that "there was not a single re-vaccinated person" amongst those attacked by smallpox. To recommend compulsory re-vaccination on "statistics" of this kind is to show a very poor understanding of the responsibilities attaching to a seat on the Bombay Corporation.

4. As the figures furnished to the Corporation show that there were 207 admittedly vaccinated patients of 7 years of age or less, of what use would re-vaccination between the ages of 8 and 11 years be to such children? These 207 patients are but 207 proofs of the inability of vaccination to protect even for 7 years from smallpox.

5. Why is no information given as to the ages of the unvaccinated cases? If this information had been supplied, it would doubtless show the reason of the higher death-rate in the unvaccinated. As the Corporation themselves own, the unvaccinated are chiefly those exempted by medical certificate, because of delicate health, and if, as is probably the case, the bulk of the unvaccinated cases are in children under 10 years of age, it is easily understood that these more delicate children would naturally die of smallpox in larger numbers, if attacked by the disease, than those who had been vaccinated because they were stronger.

6. As doctors go entirely by vaccination marks, it is not possible to be certain that their statistics are correct. Many people have been thoroughly vaccinated, and yet bear no marks. In London, in the early part of 1911, there was a small outbreak of smallpox. The Metropolitan Asylum Board issued a report regarding it, and in that report it was stated that there were no vaccinated deaths in children under 10 years of age. But the National Anti-Vaccination League have in their

possession the certificate of successful vaccination in infancy of a boy who died at five years of age, of smallpox, in this outbreak, and is included with the unvaccinated. In the report furnished to the League by the Board, this boy was down as "unsuccessfully vaccinated in infancy." No doubt the official explanation of the case will be that when the boy arrived at the hospital, suffering from smallpox, no marks of vaccination were visible. But the case proves that even when there is no deliberate intention to deceive the public, it is possible to make mistakes in vaccination statistics unless the greatest care is taken. For this reason, the Bombay Government should be asked to introduce into their Vaccination Act a provision similar to Section 8 of the Vaccination Act, 1898, (England and Wales), which allows, on payment of certain fees, copies of the details of the smallpox cases to be given to applicants, who are thus able to find out whether the particulars as recorded in the hospital registers are true or not.

7. No country in the world is so thoroughly re-vaccinated as Japan. The compulsory law in that country has been so well enforced that during the 20 years 1886 to 1905 inclusive, over 91 millions of vaccinations were performed, which number allows for every inhabitant of the country to have been vaccinated twice, and some of them three times. In spite of this enormous amount of vaccination and re-vaccination, in 1908 there were over 18,000 cases of smallpox, and nearly 6,000 deaths. In Europe, the two best vaccinated countries are France and Italy. For women at least two vaccinations are compulsory, and for men three. There are no antivaccinists in either of these countries, and for Italy the records of vaccination amongst the recruits show that practically all the men offering themselves as soldiers are well vaccinated before enlistment and then they are again vaccinated. In France it appears impossible to arouse any sentiment against vaccination. But how do the smallpox records of these two countries compare with those of England where there is no compulsory re-vaccination, and where even infantile vaccination is being largely discarded, and

where also, since there is no conscription, there is no compulsory re-vaccination of adults to any extent? For the 15 years 1894 to 1908, the death-rate per million living from smallpox in England and Wales was 13, and for the same period in Italy it was 53. For France we have not the figures for 1906, but for the 14 years ending with 1907, the rate was 69. Here, then, are countries where compulsory re-vaccination has been tried, and has been carried out rigorously, and yet they have a far higher smallpox death-rate than England, without compulsory re-vaccination, and with less and less infantile vaccination. In what do they differ from England, then? In their sanitary conditions. England and Germany are far ahead of Italy, France, or Japan, in sanitary improvements, and they have thereby reduced the mortality from smallpox, and from other filth diseases.

8. The Government Vaccination and other Reports constantly refer to the dislike of the native population for vaccination, and it is a most dangerous step to take to try to enforce re-vaccination. Surely the experience of the official plague inoculators ought to be a warning to those who intend to try to force re-vaccination on an unwilling populace. It is not as if primary vaccination had proved itself a protection against smallpox. And vaccination itself is a disease, which often has the most serious results. Missionaries home in England have spoken of the dread many natives have for vaccination. An American doctor in India kept records of the cases of leprosy he treated, and in quite a number he found that vaccination had been the means of communicating the disease. In England a man has recently died after seven years' constant suffering, through re-vaccination performed to enable him to enter the Government service at Enfield. Every week cases are recorded in which it is the firm belief of the relatives that vaccination was the cause of death.

9. With regard to the Goans, they are well known for their excessive use of fish often putrid. They drink raw spirits and live in some of the filthiest localities in Bombay. Their habits.

are dirty ; they do not have the daily bath which is so necessary in a warm country. Their food is just the kind which brings about a condition of the blood which is favourable to zymotic diseases for their chief articles of diet are : rice and curry, with fish, and pig's flesh, the last being especially unwise in a country like India. It is absurd to infer, as the Corporation Reports infer, that simply the absence of vaccination causes these people to take smallpox, for the experience of the whole shows that, where people live under sanitary conditions, and without vaccination, smallpox does not spread, even when introduced occasionally. But even in the figures given in the Corporation's statement, it is shown that over one-third of the smallpox cases in the Goans had admittedly been vaccinated, and of those the large number of over 19 per cent died. If the Corporation's statement is true that the Goans are not vaccinated how comes it that one-third of their smallpox cases are vaccinated ? And even if the official figures showed no vaccinated cases at all amongst the Goans, that would not prove that vaccination protected from smallpox, for the Corporation themselves say that the Goans are not vaccinated. Of course, the smallpox cases in an unvaccinated population would be unvaccinated, and the fact that one third of them in the unvaccinated Goans are vaccinated, throws doubt on the official statement that they are not generally vaccinated. For their statistics to be of any use, the Corporation must show (1) that the majority of the Goans are well vaccinated, and (2) that practically all the Goan smallpox is in unvaccinated patients. But to produce statistics showing that in a confessedly unvaccinated community only two-thirds of the cases are unvaccinated proves nothing for vaccination. Further, if vaccination protects from smallpox, what matter if the Goans do bring the disease into the City ? How can this affect the well-protected inhabitants of Bombay ? How can the Goans be centres of infection, if vaccination protects from infection ? The Goans can be ignored in any case, for if the Corporation compel the general population of Bombay to be re-vaccinated

and if the case for re-vaccination is as strong as its supporters say it is, then the Goans need not be feared, for the Bombay inhabitants will be protected, and if, on the other hand, the Corporation do not compel the general public to be re-vaccinated, they have no right to interfere with the Goans.

10. As for the argument that the fatality rate is less in vaccinated smallpox than in unvaccinated, that can easily be explained, even if the official figures are correct (and pro-vaccinist statistics are always open to doubt), for the weakest and youngest of the population would be amongst the unvaccinated. These would naturally die in larger numbers if attacked by smallpox than those who were vaccinated because they were stronger. The Corporation's own Report proves that the unvaccinated are largely the more delicate for they state that the compulsory vaccination law of Bombay only allows exemption for those who are not strong enough for vaccination. And as in the days when there was no vaccination at all, the average fatality rate from smallpox was only 18 per cent, it is self-evident that some other cause must be at work to make the unvaccinated in Bombay die at over 30 per cent.

11. The arguments regarding the Goans are applicable to all immigrants. Vaccination will not prevent them taking smallpox, and it will itself give them a disease from which they may take months to recover, if they ever recover at all. The Corporation has no right to inflict further hardships on these poor people when many of them have already suffered terribly on the way to Bombay.

12. As for compelling employees to be re-vaccinated, this is disgraceful. To say to a man or a woman,—“Adopt my nostrum for preventing smallpox, or else neither I nor any other employer in Bombay will give you work” is outrageous. The Corporation will not guarantee that the employees will suffer no harm from vaccination and their guarantee (even if they were willing to give one) would be useless for the effects of vaccination may only show themselves months and even

years later. For will the Corporation compensate the sufferers should they afterwards develop smallpox? No; it is simply the desire to tyrannise over weaker fellow-creatures that prompts this suggestion. It is hard enough to keep one's health in a city like Bombay, without being compelled to have pumped into one's veins the abominable mixture labelled "pure calf lymph". Have the Corporation ever studied the Government Vaccination Reports? Have they seen there how difficult it is to obtain lymph at all, and how the calves die? If they read the accounts of the efforts made in the production of so called "lymph," it would sicken them once and for all of any desire to enforce this horrifying operation on those who loathe it.

13. Mr. Vursetji's dissenting remarks are admirable except for his agreement regarding the value of re-vaccination. Apparently he has not been in a position to study the evidence on this subject. The British Army in India alone furnishes sufficient evidence to disprove the statement that re-vaccination protects against smallpox. It does not even protect against death from smallpox for our thoroughly re-vaccinated soldiers not only take the disease but also die of it, and cases and deaths are recorded in the Reports every year. During the 18 years 1890-1907 inclusive, there were 707 cases of smallpox, and 61 deaths in the British Army in India, and the Army Medical Department Report for 1906 shows how thoroughly these soldiers are vaccinated, for on page 203 we read: "In October of each year, all men (as well as women and children) are inspected, and their medical "history sheets examined. Those who do not show either satisfactory marks, or records of vaccination are re-vaccinated." In the case of unsuccessful re-vaccinations, further attempts are made with lymph that is known to have been successful in other cases, before the soldiers are passed as protected. In the Report for 1903, however, we read of a child twice vaccinated in 1902 taking smallpox in 1903. In the Report for 1902 we read of a child dying of smallpox on May 23rd, 1902, who was vaccinated about February, 1901, and re-vaccinated on May 15th, 1902. If Dr. Cursetji would

investigate the matter further, he would realise that re-vaccination only protects from smallpox so long as the disease is absent.

14. If the Corporation really mean to get the inhabitants of the houses re-vaccinated, they will find they are stirring up trouble for themselves. The absurdity, too, of doing this on behalf of a superstition belonging to the dark ages makes one wonder who has been engineering the matter.

15. Dr. Luchia's remarks should be circulated widely. They express an opinion which will have the greatest weight with those who will have the matter in hand.

16. The recommendation that those desiring to attend school shall be compelled to be re-vaccinated is intolerable. We in England are going in the opposite direction. For the last three years no schools receiving Government grants have been allowed by the Board of Education to insist on the vaccination of their scholars, and for the past two years training colleges have been placed in the same position by the Board. While England is going forward, Bombay is retrogressing. The experience of America should make the Corporation stay their hand. In many of the American States it is compulsory for children to be vaccinated before entering school, and every year hundreds of children are injured by the operation, scores of whom die. Every week deaths from tetanus in consequence of these school vaccinations are reported, and at the present moment a law-suit is being heard for the admission of unvaccinated children into school in the State of Missouri, and the Chicago ex-City Bacteriologist has given evidence that he has found all kinds of the most harmful disease germs in the various lymphs now on the market. In England calf lymph has been used officially since 1899, and from that date up till the last for which the returns are issued (1909) there had been 243 deaths officially certified as due to "Cowpox and other effects of Vaccination." To make an operation, which is known to have had the most disastrous effects, compulsory on all school children; (most of them having already undergone it in infancy) and on those

attending colleges, is to inflict on the whole of the juvenile population a most abominable outrage.

17. After the disastrous epidemic of smallpox in England in 1871, the same call for compulsory re-vaccination was heard from the medical pro-vaccinists. Primary vaccination had proved itself a failure but instead of owning this, the official apologists clamoured for compulsory re-vaccination, which they never succeeded in getting.

18. England and Germany (not counting America) are the two most advanced countries in the world at present. England has thrown off compulsory vaccination, and Germany is making a great fight against it. At a Conference at Frankfurt on Main in September this year (1911), it was stated that 21 per cent. of the infants born in Hanover escape primary vaccination, and at a Public Meeting held in Frankfurt on September 9th, over 1,500 persons were present to protest against the enforcement of compulsory vaccination. Surely those who are working for the good of India will not fasten on her neck a yoke which more advanced countries have either thrown off or are at the present moment agitating against with the certainty of getting free from it eventually. The Bombay Corporation will never stop smallpox by re-vaccination, and they will only engender fresh discontent among the people they wish to serve. We most earnestly beg them to abandon the idea of compelling re-vaccination, and to turn their attention to the great problem of introducing into the City the sanitary laws and conditions which alone can stop the spread of zymotic diseases, of which smallpox is one.

(Signed on behalf of the National Anti-Vaccination League,
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October 16th, 1911.

VACCINATION AND LEPROSY.

(Reprinted from the Individualist).

What is leprosy? It is, said the *British Medical Journal*, "perhaps the most terrible disease that afflicts the human race. It is hideously disfiguring, destructive to the tissues and organs in an unusual degree, and it is hopelessly incurable, the fate of its victims being, indeed, the most deplorable that the strongest imagination can conceive, and many years often passing before death rids the unhappy sufferer from a life of misery to which there is scarcely any alleviation." One variety of the disease is thus described by an eminent French authority:—"If the patient does not die of some internal disorder or special complication, the unhappy leper becomes a terrible object to look on. The deformed leonine face is covered with tubercles, ulcers, cicatrices, and crusts. His sunken, disfigured nose is reduced to a stump. His respiration is wheezing and difficult: a sanious, stinking fluid, which thickens into crusts, pours from his nostrils. The nasal mucous membranes is completely covered with ulcerations. A part of the cartilaginous and bony framework is carious. The mouth, throat, and larynx are mutilated, deformed, and covered with ulcerated tubercles. The patient breathes with the greatest difficulty. He is threatened with frequent fits of suffocation, which interrupt his sleep. He has lost his voice, his eyes are destroyed, and not only his sight but his sense of smell and taste have completely gone. Of the five senses, hearing alone is usually preserved. In consequence of the great alterations in the skin of the limbs, which are covered with ulcerated tubercles, crusts, and cicatrices, . . . the sense of touch is abolished. The patient suffers excruciating pains in the limbs, and even in the face, whilst the ravages of the disease in his legs render walking difficult and even impossible. From the hypertrophied inguinal and cervical glands pus flows abundantly from fistulous openings. In certain cases the abdomen is increased in size on account of the liver, spleen, and mesenteric glands being involved. With these visceral lesions the appetite is irregular or lost. There are pains in the stomach, diarrhoea, bronchial pulmonary lesions, intermittent febrile attacks, and a hectic state. The peculiar smell, recalling that of the dissecting room, mixed with the odour of goose's feathers, or of a fresh corpse, is indicated. . . ."

We have been obliged to transcribe this frightful description of leprosy, in order that the seriousness of the issue we are about to raise may be fully realized. It is just nineteen years since Mr. William Tebb—to whom many good causes owe so much—published his book, “The Recrudescence of Leprosy and its Causation.” He gave abundant evidence of the revival of this terrible scourge, and of its causal connection with vaccination. But he met with the fate common to those who dare to draw attention to unfashionable medical truths. Never was a book written which deserved more careful attention. Few, even of the frivolities of literature, received less, even from those who esteemed themselves the intellectual *élite*. It went, in the main, to increase the number of volumes interred in what Lord Rosebery has called book cemeteries, and was found alive only on the shelves of an enlightened few. Now, however, the hour of its resurrection seems to have struck. Soon after its appearance an event happened which has only just been brought to light by the publication of Mrs. M. A. Handley’s most interesting volume, “Roughing it in Southern India.” This event throws a flashlight of the most luminous description on Mr. Tebb’s contention; and it is best described by quoting Mrs. Handley’s own words:—

“At one time when smallpox was especially virulent throughout F.’s district, the Wynad, then orders were issued by the Government that everyone should be vaccinated. Centres had to be arranged at which the people might assemble for this purpose. This was only accomplished after endless obstacles and difficulties of all kinds had been met, for there was a strong prejudice against vaccination. I don’t think we were altogether free from it ourselves, but there was no resisting stringent Government orders. Every coffee planter in the district, far and near, was to see that his hundreds of coolies duly presented themselves. With estate muster-rolls this was possible, but it was not so easy to get hold of the scattered units of the general population in outlying parts.

“By dint of careful planning and proper organization the business had, however, been put in train for some weeks. A letter in English from a native forest subordinate, which I remember hearing quoted, described the method about to be used. He wrote that they intended to ‘persuade by force’; and I don’t doubt that by

means of it many a struggling wretch was dragged to the operating station against his will.

"It had been arranged that all under Forest jurisdiction within a certain radius should be vaccinated in our compound, for the convenience of the division and to ensure every person being included; not a single one was to be allowed to escape, which all—at least all the natives—were bent upon doing.

"Great preparations had been made by our servants for the feeding of these crowds, who were frightened to death at the prospect before them, and now the dreaded day had come; the compound was thronged; everything was in readiness, and the doctor and his Eurasian assistants had arrived from the hospital.

"Our system of vaccination might be new to these people, but not the idea of inoculating one disease in order to combat or forestall another. That is centuries old, and they were familiar with its attendant dangers; it was, in fact, the thought of those dangers that now so terrified them. 'Well took physic, fell sick, and died,' is a saying that might be remembered, sometimes to much advantage. We, too, had heard hideous stories of disease contracted through tainted lymph, but we were assured that all precautions had been taken, and that the vaccine was of the purest, for the children and calves from which it was procured had been under medical observation. All that we had to take on trust. In any case there was no escape, and the fateful moment had arrived. F. offered himself first, as an encouragement to the shrinking creatures around; in another few minutes the doctor would have begun and finished with him. My turn would have come next, I suppose, then that of the household servants, and so on, till the entire compoundful of people had been rendered immune from smallpox, at any rate, had not a totally unexpected interruption now occurred. First a sound of galloping hoofs approaching broke upon the ears of the assembled people, and in another moment a couple of horsemen showed themselves tearing up the hill, frantically waving papers in their right hands. As they neared they were seen to be white with dust, and their faces livid and colourless, so hard had they ridden in order to be in time to stop the vaccination! Their errand was soon told. It had been discovered that the vaccine lymph about to be used had come from the most leprous village in

Southern India! The message was delivered just in time—not an instant to spare; an accident to man or horse, an extra drink of water on the road—the veriest trifle—and some of us would have been surely doomed to the most awful fate on earth. But those two fine fellows were not chosen at haphazard; they knew what was wanted of them; their orders were to ride like the wind, to save lives; to eat and drink riding; to stop for nothing; above all, *to be in time*.

“I cannot now remember with how many changes of horses those men had covered mile after mile at unslackening gallop, over any sort of ground, and roads that, as we knew, were like dry watercourses; nor how long or short a time their desperate ride took them, but I know that they fulfilled their mission grandly, nearly falling out of their saddles with fatigue as they pulled up at their appointed goal. Nor were they forgetful of their good horses that had served them so well; for we heard them give the *syces* who were leading the spent animals away a rapid word of caution not to water them directly, only to rinse out their mouths and bathe their faces, legs, and feet, till they should cool down a little. They had not thought of themselves, but F. saw that all was provided for their comfort and rest. The men were Mussulmans—high bred, finely strung—whose endurance would give out only with death. Our feelings towards them are not to be described. Besides ourselves, all those hundreds, aye, thousands, of men, women, and children, even the tiny babies, were all to have been subjected to the same deadly risk, if not certainty, of contracting one of the most horrific diseases from which man can suffer.” (pp- 133-5).

Now let us see what all this means. Here were crowds of unwilling persons driven to the vaccination station, there to be subjected to an operation which they dreaded. This dread was accounted ignorance or prejudice; but what do the facts themselves show? Save for the heroic endeavours of the horsemen, these poor people would all have been inoculated with one of the most terrible of diseases. This was tacitly confessed by the action of the Government itself; and in how many cases must such accidents have happened without detection? The inoculability of leprosy stands confessed; and the danger of its inoculation by means of vaccination is also confessed. Those two horsemen carried with them the proclamation of both those facts.

But it is proclaimed not by these alone. We have before us the Prize Essays on Leprosy, by Dr. Thompson and Dr. Cantlie, published by the New Sydenham Society. Dr. Cantlie sent out a circular to collect information upon leprosy in the Far East; and one of its questions was: "Has leprosy increased with the use of vaccination?" Now it has to be borne in mind that there is the strongest disinclination to say anything which would discredit vaccination. But what was the result? From Dr. R. J. J. Macdonald, of Fatsan, the answer came: "I think leprosy is on the increase with the increasing population of the country, and that vaccination is a slight factor in the increase." From Dr. Anna Scott, of the Port of Swatow, the reply was: "I answer a most emphatic 'yes' to this question. The increase of leprosy among children is frequently remarked upon by our (mission) people, and I have been forced to the conclusion that the vaccination from arm to arm, practised by a class of Chinese (quack) doctors, has caused this very marked increase." Dr. M. Albright, of Sourabaya, Java, says: "I cannot bring decisive proof that there is a connection between vaccination and leprosy, but the tendency of belief is in that direction." Dr. C. B. Wood, of Honolulu, replied: "A number of years ago, when arm-to-arm vaccination was practised, it undoubtedly helped to spread leprosy. All vaccine now used is imported, hermetically sealed." From Dr. Richard Oliver, of Molokai, Hawaiian Islands, the reply came: "In years gone by vaccination undoubtedly caused increase of leprosy, owing to the lymph being obtained indiscriminately and carelessly."

We care not to comment on these shallow excuses for the propagation of disease, or change from human to calf lymph. The point is that Mr. Tebb's contention is conclusively proved by the words and deeds of the very champions of vaccination. Of course they will tell us that they now use another kind of zymotic poison, and that the particular evil results of the first cannot be credited to the second; and when this second has, in its turn, been discredited, when we have reaped another crop of another disease, such as tuberculosis, they will be ready with a third variety of virus which can be warranted not to produce the evils resulting from the second. As was said by the *Calcutta Daily News*: "In trying to avoid the Scylla of leprosy, syphilis, and kindred evils, they fall into the Charybdis of tuberculosis and other equally fatal maladies." How long will the British people, who pride themselves on their practical common-sense, allow this sort of thing to go on?

THE LATE SIR JOSEPH HOOKER.

We are very sorry to have to record the death of Sir Joseph Hooker, the eminent Naturalist who contributed so much to the advancement of Indian Botany. Having begun his career as a student of Medicine in 1839, he was appointed Assistant Surgeon on board the *Frebus*, which went to the Antarctic regions, under Sir James Ross. During the next twenty-five years he explored the Himalayas, Syria and Palestine, Morocco and the Greater Atlas, the Rocky Mountains and California. His botanical researches were embodied in many publications the chief of which was his *Flora of British India*, a work on which he was engaged for more than a quarter of a century, to say nothing of previous years of travel and preliminary labour. It would perhaps be more correct to say that it took up the best part of fifty years of his life, as he left England for India in 1847, when he was about 30 years of age. The entire work consists of seven octavo volumes, each containing about 775 pages, and the general index exhibits no fewer than 42,000 names. The grasses alone numbers 850 species belonging to 160 genera. During his botanical mission to the Himalayan regions, he was seized, imprisoned and ill-treated by the Rajah of Sikim, and only escaped with his life after great sufferings. In 1855 he became Assistant Director of the Royal Gardens at Kew under his distinguished father, Sir William Hooker, succeeding him in 1865 to the position of Director which he retained for twenty years. His place was taken by his son-in-law Sir W. Thistleton Dyer.

Sir Joseph was President of the Royal Society from 1872 to 1877, and honorary member of numerous scientific bodies in England and elsewhere. A knighthood was conferred upon him in 1867 for his services to the Government of India. A few days after entering upon his ninety-first year he was enrolled among the limited number of members of the Order of Merit. He carried on his studies almost to the end of his life, reading for several hours every day, and devoting the greater portion of his time to botanical research. With the exception of

deafness, he retained the use of all his faculties to the last. For his kindly disposition he was esteemed by a wide circle of friends.

He is said to have anticipated Darwin's "Origin of Species" in two fascinating papers in which he embodied the results of much minute study of the geographical distribution of plant life and its history and origin. It was also the joint advice of Hooker and Lyell that determined Darwin to publish that immortal work unfolding the doctrine of evolution. Sir Joseph is also said "to have paid not unfrequent visits to Darwin, when it was the latter's practice after breakfast to take him to his study, and bring out a long list of questions on botanical subjects. The questions were sometimes answered off hand, some required consideration, and others a protracted research in the herbarium or in the gardens at Kew. The answers were written on slips of paper, which were deposited in bags or pockets that hung against the wall within reach of Darwin's arm, each of them a receptacle devoted to a special subject of enquiry." It was also largely due to Hooker's persuasion that Darwin consented to let his paper stand alongside that of Alfred Russel Wallace at the famous meeting of the Linnean Society, half a century ago.

FISHES AND FISHERIES OF BENGAL.

Fish is one of the most nutritious articles of food very extensively consumed in Bengal. It is rich in nitrogen, phosphorus and the animal fat-essential elements of human diet, in which the other commonly-used articles of food are deficient. Rice which is the staple food of this country, is much wanting in these elements, and when boiled to make it edible, it becomes rather tasteless and monotonous, and it is fish perhaps which can make it more relishing than any of the other things generally resorted to for this purpose. Moreover, "no good brain-work," to quote the dietetist Simmons, "can be maintained long upon a diet which excludes fish and the peculiar phosphatic nutrients found most abundantly in fish."

Such being the case it is no wonder that enquiries into the subject of fishes and fisheries began to be undertaken shortly after the conquest of Bengal by the British. We are indebted to Mr. Kiran Chandra De, I.C.S., for his very valuable and exhaustive Report on the "Fisheries of Eastern Bengal and Assam," published by the Local Government some time ago, for some of the informations embodied in this article. We find therein that Dr. Buchanan Hamilton was the first British Officer engaged on this duty. His investigations commenced in 1794, and the results were published in a volume entitled the "Fishes of the Ganges" in 1822. In 1867 the Secretary of State for India called the attention of the Government of Madras to a communication from Sir Arthur Cotton to the effect that great injury was done to the coast fisheries by the irrigation works at the mouths of the rivers, and in 1868 Surgeon-Major Francis Day, I.M.S., F.L.S., F.Z.S., was deputed to enquire into the subject. In the same year he was appointed Inspector General of Fisheries in India, and visited Bengal and Assam (then a Division of Bengal) and made extensive enquiries of European as well as Indian Officers of the Province. His report was submitted on the 8th March 1869. Four years after, the Government of India published a full report on the fresh water

and sea fisheries of the Indian Empire. Surgeon-Major Day had recommended the passing of a Fisheries Act, and the making of Rules and Bye-laws for the conservation of fish and the increase of fish supply. After his retirement from the service, Surgeon-Major Day continued to work on the classification and description of the Indian fishes, and the result of these labours was published by the Secretary of State in 1889 in two volumes entitled "The Fauna of British India, Burma and Ceylon." These volumes are yet regarded as the standard works on the subject; but no action appears to have been taken on his recommendations to pass a Fisheries Act. A marine survey of the sea-fishes in the Indian waters was subsequently made by Colonel A. Alcock, an authority of no inconsiderable merit, and the results of his enquiries were published in 1896.

Meantime the supply of fish continued to decline in India, while its nutritive value began to be more generally recognised in Europe and America, and its demand increased among the European population of this country. The subject naturally attracted the attention of the Indian Government, especially in the coast of the Madras Presidency. In the year 1906 Sir Andrew Fraser, the permanent Lieutenant Governor of Bengal left India on leave from 11th April, and Mr. (now Sir Lancelot) Hare, then Senior Member of the Board of Revenue, was appointed to officiate for him, Mr. K. G. Gupta succeeding on the Board. On the 15th August Mr. Hare left Calcutta to take up the Lieutenant-Governorship of Eastern Bengal and Assam, and Mr. Gupta was deputed to enquire and report on the state of fisheries in this Province, and on the possibility of adopting measures for the conservation and development of fish cultivation on modern scientific lines. The Local Government has recently issued a Resolution reviewing the whole question. This Resolution gives a succinct account of what has since been done on the subject. Besides making personal enquiries himself, Mr. Gupta caused enquiries to be made in every district by the District Officers both European and Indian. Mr. Banwari Lal Chaudhuri,

B. Sc. of Edinburgh, who had studied Ichthyology with Professor Herdman was appointed to assist him. Mr. Gupta's first report was submitted on the 20th February 1907. He recommended the formation of a department to carry on the enquiries and make experiments in the propagation and protection of fresh-water fishes. He was subsequently placed on special duty by the Secretary of State for India to continue his enquiries in Europe and America. He visited the United States, Canada, Bavaria, Austria and France in addition to the United Kingdom and submitted a second report on the 27th January 1908. In this report he described what he saw in the countries visited by him, proposed the passing of a Fisheries Act, and suggested the organisation of a Fisheries Department. In February 1908, Mr. Gupta proceeded to England to join his appointment as a Member on the Council of India. The Government of Bengal took action on his Reports, created a Department of Fisheries and appointed Mr. A. Ahmed, a Statutory Civilian, as the Commissioner to carry on the work with a suitable establishment but failed to perceive the importance of experts to help him in the undertaking.

Mr. Gupta's Reports not only dealt with the fresh water fishes but also with those on the estuaries and open sea. As regards the latter the Local Government decided "to lead the way to ascertain the localities in which fishing would be profitable, and to determine the methods on which to proceed." As regards fresh water fisheries no new methods were thought necessary. It was deemed sufficient to confine the work "to artificial propagation, and to combine it with a system of short close seasons and other protective measures." To give effect to these views a steam trawler was obtained, the services of a fishery expert were engaged, and two selected students were deputed—one to Europe "to study the curing of fish, marine hatcheries and crap culture, (the crap family being represented in Bengal by the *Rahu*, *Katla* and other important species)"; and the other to America "for instruction in the culture of *Shad* of which family the *Hilsa* is a member."

In April 1908, the steam trawler *Golden Crown* was brought out, and placed in charge of Mr. G. Manna, trawling Captain from Hall, with four European trawling experts, the object being to explore every portion of the Bay of Bengal, and to ascertain what fishes are to be found at what seasons and in what quantities. The trawler made 28 voyages between June 1908 and December 1909. Her operations indicate that there are large areas in the Bay in which trawling is possible, that the Bay will yield a large supply of fish, and that the catches can be put on the Calcutta market in good condition. In October 1908, Dr. J. T. Jenkins, an expert from Europe was appointed Fishery Adviser to Government and discharged the duties of the appointment for 18 months. The results of his enquiries have been embodied in his report entitled "Marine Fishery Investigations." The papers connected with the Fisheries of the Bay of Bengal have been reprinted together with an illustrative chart shewing which are the best fishing banks in the Bay. The experiments carried out by means of the *Golden Crown* demonstrate that trawling in the Bay is possible throughout the year, and that with proper care fishes keep fresh in the ice-hold for an indefinite period. It is now for capitalists and enterprisers "to devise the best type of vessels for Indian trade, their equipment, and the most feasible method of bringing fish to market." Dr. Jenkins, who is now Superintendent of the Lancashire and Western Sea Coast Fisheries, has recently taken a comprehensive survey of deep sea and estuarine fishing in the Bay of Bengal in a paper recently read before the Indian Section of the Royal Society of Arts. In dealing with the scientific results of the *Golden Crown's* investigations he said that this clearly shews the necessity for revision of the fishes of India, for since the completion of Dr. Day's work in 1873, large collections have been made and new species have been described. He said further that had the recommendations made in 1907 and 1908 by Sir (then Mr.) K. G. Gupta, been adopted by Government with an efficient, permanent officer to see them properly carried out, there could

be no doubt that by this time Bengal would have a Fisheries Department which would serve as a model to the rest of India.

The problem of the Inland Fishing Industry has been resolved into (1) Protection of Fisheries by legislative measures, (2) Pisciculture. The Government of Bengal justly thinks that it is not possible to prohibit the sale of fry captured in the rivers, or to legislate for the protection of the various species of fish until arrangements have been made for the re-stocking of ponds and tanks in the various parts of the Province and a proper knowledge has been acquired of the habits of fresh water species. The further action taken by the Local Government in this matter has been described in the following extracts from a Resolution of that Government issued on 2nd December 1911 :—

“Two students, Mr. Bepin Behari Das, M.A., and Mr. Saiyid Muhammad Mohsin, were sent abroad in 1908 to Europe and America, respectively. The former was deputed to make a special study of carp culture as carried on in the continent of Europe, and to learn practical fish-curing and allied matters connected with the fishing industry at the fishing centres of the United Kingdom. Mr. Mohsin was sent to the United State of America with a view to study the practical working of the shad hatcheries. Since their return to India in 1909, the two fishery scholars have been employed in investigations with regard to the breed of *rahu* and other members of carp family and with regard to the location of the spawning grounds of *hilsa*. Mr. Ahmad, in addition to his duties in connection with the control of the marine survey and of these enquires conducted experiments in fish-curing and in the extraction of by-products. The Government of India in this connection have sanctioned the grant of a rebate of duty on salt used for fish-curing purposes, subject to the condition that the concessionaires should pay for the cost of the preventive establishment that might be necessary and that the rebate allowed should not exceed the duty payable on the salt used. The issue of the duty-free salt has also been sanctioned for the benefit of the fishermen on the coasts of this Province

who may be engaged in the fish-curing industry. A Fishery Board was also constituted in October 1908, consisting of certain Government officials and representatives of the commercial community and the land-owners of the Province, whose functions were mainly to advise and assist the officer in charge of the operations and to stimulate public interest in matters concerning fisheries.

In January 1910, the work connected with the fisheries enquiry was, in accordance with the precedent of most of the European countries, placed under the control of the Director of Agriculture. In March 1910, the report of Mr. Ahmad on his work for the previous two years was submitted, and in August 1910 proposals were submitted to the Government of India for the organisation of the Fishery Department. It was realised that the work must proceed slowly and will take several years to develop, and that for the present it may be supervised by the Director of Agriculture; but it appeared to the Bengal Government that the Director should have the assistance of an European expert with the scientific and practical experience not only to supply the necessary element of technical knowledge, but to control the operations under the supervision of the Director. Accordingly, application was made to the Government of India for the appointment of an expert on Rs. 600—50—800, to be styled the Deputy Director of Fisheries. The proposals of this Government were accepted by the Government of India and the Secretary of State; and Mr. T. Southwell, who is an A.R.C. Sc., in Zoology, and is at present employed as the Scientific Adviser and Inspector of Pearl Banks to the Ceylon Company of Pearl Fisheries, Limited, has been selected to hold the appointment. Mr. Southwell is expected to join his duties this month. Under the Deputy Director of Fisheries there are to be two Superintendents on salaries of Rs. 250—10—400, and Mr. Das has already been confirmed in one of the appointments with retrospective effect from 15th January 1910. In addition to this the Director has power to appoint four zoological students and other suitable officers on Rs. 75 a month to assist the

Superintendents of Fisheries in their enquires. This establishment is the nucleus of the permanent Fishery Department which is considered necessary in order to control hatcheries to introduce and maintain regulations, and to encourage the development of the fish supply of the Province."

The problem of fish supply is of vital importance to the rice-eating population of India. The reports of the officers already noticed and of several others, who have written from actual experience clearly show that the supply of edible fish is unlimited and that the demand for it throughout India is also practically unlimited. The chief points of success in a commercial business—unlimited supply and unlimited demand,—are therefore present in this undertaking. The Government of India seem to be desirous that deep-sea fisheries especially those of the Bay of Bengal should be developed, and Lord George Hamilton, when Secretary of State for India "had dealt with the salt tax on cured fish." The question of forming English Companies to develop the Indian Sea-fisheries has also been floated. The interesting paper of Dr. Jenkins on the Fisheries of Bengal referred to above and the excellent letter of Dr. Birdwood published in the January number of the Journal of the Royal Society of Arts, have drawn the attention of the British public to the subject. The Governments of Madras and Bengal have for some time taken practical steps to increase the supply of fish in their Provinces, and the Governor of Bombay as well as the Lieutenant-Governor of the Punjab and that of Eastern Bengal and Assam, have recently taken measures in the same direction. May all these attempts be crowned with success, and India be supplied with a foodstuff so indispensably necessary for the healthy growth of her people.

EDITOR'S NOTES.

Public Drinking Cups Abolished.

The Sanitary Code Ordinance, which comes into force in New York City on October 1, abolishes drinking cups in public places and the hotels, public schools, railroad stations and theatres. At the Waldorf-Astoria girls attired in white will be stationed near the four drinking fountains in the foyer to serve water in individual glasses to thirsty guests free of charge. At the Hotel Knickerbocker the fountains will be discontinued and water will be served free in the restaurants and bar. The management of the Plaza, St. Regis, Gothen, Ritz-Carlton, Belmont, Manhattan, Astor, Rector's Savoy, Netherlands, Martini-que, Holland House and other prominent hotels have adopted the same plan. Individual drinking cups are to be obtained at the Pennsylvania Station by dropping a penny in the slot, and the same system will be carried out at the Grand Central Station. Children will have to provide their own drinking cups at schools. The theatres will discontinue the fountains, but retain the boys who serve water in the auditorium between the acts. It is expected that the new sanitary law will be felt most in schools and factories, as it will be a violation of the law for any person to loan his or her drinking cup to another.—*The North American Journal of Homœopathy*, October, 1911.

Pasteur and Hydrophobia.

When one reads of the "mighty and bloodless revolution" wrought by the discovery of Pasteur anent hydrophobia (i. e., a disease evidenced by the "fear of water" as the word indicates), conquering that disease, and then reads of the establishments of "institutes," treating from 1,000 cases upwards, at \$100.00 per, in communities where, before, there had never been known a case of the disease, one gets—oh, well, sceptical.

Professional dog-catchers, the men at the dog ponds, all over the United States, are bitten by dogs almost daily when in commission, but think nothing of it, but let a citizen get bitten and it is a rush to "the institute"—if one has been established. Before that, like the dog-catchers, they thought nothing of it and no one died of dog bites. It is a load on true medicine.—*The Homœopathic Recorder*, November 15, 1911.

Small-pox and the Homœopathic Prophylactic.

Dr. G. E. Dienst, of Naperville, Ill., contributes a paper to Dr. R. F. Rabe's department in the *N. Am. Jour. of Homœopathy*, relating his experience during an epidemic of small-pox among the students of the Northwestern College, located at Naperville. The epidemic occurred in 1902, and Dienst had charge of the majority of the cases, which may be divided into three classes. 1st, those who were vaccinated in the orthodox manner; 2nd, those who were vaccinated and also received the Homœopathic vaccination, and 3rd, those who refused to be vaccinated. The first class, about twenty, suffered most from sore arms (one was invalided for six weeks), and three of them, on whom the vaccination did not take, contracted the disease, one in the confluent form, but their health was better afterwards than those who had very sore arms. About 200 were vaccinated in a similar manner—the same virus being used—and, also, at the same time received the homœopathic prophylactic. None of these suffered from sore arms, none had small-pox, and on many the vaccination did not take. Those who refused to be vaccinated seem to have been of the class with an uneventful history.—*The Homœopathic Recorder*, November 15, 1911.

Primitive Obstetrics.

L. Weinstock reports a very unusual case of obstetrics in the *Journal of the American Medical Association* of March. It is as follows: On Jan. 1, 1911, at 1.30 P. M. I was called to a negress, iii-para, age 22, unmarried, a domestic in a boarding house who had given birth to a boy at 3.30 A. M. of the same day under the following circumstances: Thinking herself pregnant for but seven months, she had made no arrangements for the birth of this child, as she had twins about a year and half ago, both children dying soon after birth. On Dec. 31, 1910 at 11 P. M. while alone in the house, she experienced a sudden pain in the abdomen which made her "double up." It soon passed off, and she thought it was simply cramp. In a short time pains began again, and she suspected that they were labor pains. After four and a half hours a boy was born. She waited until the placenta was born, and with scissors cut the cord about six inches from the umbilicus, and did not tie the cord which was still attached to the child. Washing herself as well as she could, and wrapping the child up in a blanket, she went to sleep. Next morning at 6.30 A. M., she rose, dressed and prepared breakfast for the family, did her other work, and then

told her mistress what had happened early in the morning. She then wrapped all her bloody linen around the placenta, placed the bundle in a suit case, wrapped the child in some blankets, and went home on foot, a distance of six squares. Reaching home, which by the way was the home of the father, she went to bed and called me.

Examination—I found the patient to be a fairly well-developed young woman, of apparent good health. Temperature was 98.6 F., pulse 65, respiration 18. Vaginal examination showed a slight median tear of the perineum but the uterus was in normal condition following delivery. She was given a uterine douche. The child was fully developed, about eight pounds in weight, and showed no marks or deformities. After giving the child a bath, I tied a cord about one and a half inches from the umbilicus, and cut off the rest. This procedure was, I think, not absolutely necessary as the cord was absolutely bloodless, but was done for sake of precaution.

Subsequent History.—The mother never had a temperature above 98.8 F., or a pulse rate above 70 during her six days in bed. She got out of the bed on Jan. 6, 1911, and went back to her position. The child is doing well, and seems in no way concerned as to the attention he received when he entered this world.—The *North American Journal of Homœopathy*, November, 1911.

Cold Baths in Diseases of Children.

In the *Canadian Practitioner* for November, Dr. James Newell has published a paper, read at the last meeting of the Ontario Medical Association, on the value of the cold bath in the treatment of diseases of children. We noticed last year a paper by a South African practitioner, Mr. M. G. Pearson, advocating in infantile convulsions, instead of the usual warm bath, a cold bath, on the ground that convulsions are due in all cases to pyrexia. He reported several cases in which this treatment proved most successful. He has found the treatment equally successful in prevention. He is in the habit of telling the parents of acutely ill children that there is no fear of convulsions as long as the temperature is under 102°F.; that above 103°, no matter what the illness, there is extreme danger of convulsions; and that the temperature should be watched and if necessary, reduced by bathing. He compares convulsions to the boiling over of a kettle, which is preventable by similar means. In a correspondence which followed the value of this method was confirmed. For over 30 years Dr. Newell

has employed the cold bath as a favourite treatment in children's diseases attended by a high temperature and irritability of the nervous system. When a child is in convulsions, rigid, and stertorous, with a temperature of 104° or 105° F., he finds that the happiest results are obtained from a cold bath of 75° or 80°, followed by affusion of cold water to the head, and supplemented by friction of the limbs and body, till the rectal temperature drops to 100°, when the child is removed from the bath and wrapped up, with hot-water bottles applied to the extremities if they have become blue and cold. The treatment is similarly useful in the acute febrile attacks of children with rapid rise of temperature and nervous twitchings, of which the cause may be unknown. Dr. Newell recommends this treatment as preferable to administering the coal-tar antipyretics, which are apt to be followed by cardiac and nervous depression as well as by destruction of hæmoglobin. The cold bath, on the contrary, has a stimulating action on the heart and respiration, producing an increase of blood pressure and deeper respirations. Oxidation processes, diuresis, and other metabolic changes are increased and the number of red blood corpuscles rises.—*The Lancet*, December 16, 1911.

Pyelitis during Pregnancy.

Ernst Venus (*Wien. Klin. Rundsch.*, Nos. 33 and 34, 1911) reviews the literature on the subject of pyelitis during pregnancy. The etiology of pyelitis gravidarum is not yet established with certainty. Probably infection may be either an ascending infection from the bladder, or may be by way of the blood vessels or the lymphatics, the customary infection being the ascending one. Albeck found that in some cases considered to be pyelitis in pregnancy pus had been presented before pregnancy began, and Kermaner looks upon the condition as often only of the nature of an acute relapse of a latent colipyelitis. Bacteriuria may exist without pyelitis, and it is certain that damming back of the urine plays a great part in the production of pyelitis. Albeck suggests that defective function of the sphincter vesicae during pregnancy may change a bladder bacteriuria into a cystitis, but that the bacteria do not make their way in the ureters unless there is stagnation of urine as a result of compression. It does not appear that the compression can always be the result of pressure by the pregnant uterus, because in a certain number of the cases pyelitis sets in during the first half of pregnancy, when pressure by the uterus on

the ureter cannot be accepted as a cause. To such cases the explanation suggested by Mirabeau and Hartmann may be applicable—namely, that the mouth of the ureter is closed by the pressure of the thickened and swollen bladder wall. Hartmann has also pointed out that the swelling of the mucous membrane of the whole urogenital tract, together with the changes of form of the bladder during pregnancy, may be important factors in hindering the flow of urine and causing stagnation. The present author, while not denying the pressure of the uterus as one of the causes of pyelitis in many cases, would lay even greater stress on the causes assigned by Mirabeau. The *Bacillus coli* is the most frequent infective organism, but staphylococci, streptococci, and *Bacillus proteus* are often found. The symptoms and course of a pyelitis of pregnancy are, as a rule, somewhat typical, and the diagnosis is usually not difficult if cystoscopy and catheterism of the ureters are carried out. Appendicitis, cholelithiasis, threatened miscarriage, and paranephritic abscess are the conditions to be considered in making a differential diagnosis. The prognosis for the mother is, as a rule, good as far as her life is concerned, but not so absolutely good with regard to complete recovery. The prognosis for the life of the child is usually unfavourable, but is better the nearer to the end of pregnancy the pyelitis sets in. The treatment is in the first place conservative. Catheterism of the ureter and lavage of the pelvis of the kidney are indicated in all severe cases. Artificial interruption of pregnancy only comes into question in the rarest cases, and is only indicated in severe degenerative processes in the kidneys.—*The British Medical Journal*, December 23, 1911.

Silver Acetate in Ophthalmia Neonatorum.

Hans Treber (*Wien. Klin. Rundsch.*, Nos. 35 and 36, 1911) reviews the results of the prophylactic use of silver nitrate for ophthalmia neonatorum, and recommends the adoption of prophylactic treatment as a routine measure in private practice as well as in hospital practice. He does not, however, deny the possibility of setting up the so-called "silver catarrh" if a solution stronger than 2 per cent. of silver nitrate is employed, and admits that when a solution is kept for some time, evaporation may lead to concentration to a greater strength of silver nitrate, enough to set up irritation when brought into use. In order to avoid this danger, silver acetate, as recommended by Zweifel (1900), is to be preferred to silver nitrate. At a temperature of 14° (58° F.), silver acetate

is only soluble to the amount of 1.02 per cent., and therefore too strong a solution is impossible. Its action is as prompt and certain as that of silver nitrate, and, according to some authors, is even better. Thus Thies, in each of 2,000 infants, had 1 per cent. silver acetate solution dropped into one eye and 2 per cent. silver nitrate solution into the other. Five of the children developed ophthalmia, but in two of the cases the inflammation attacked the silver nitrate eye and not the other. To test the value of Grede's prophylactic method, as carried out with either silver nitrate or the acetate, the author has made a study of the statistics of institutions for the blind and of the cases which have come under his own care. The diminution in the number of cases in which gonorrhœa was the cause of blindness was well marked in the case of the Royal Institute for the Blind in Munich, from an average of 42.9 per cent. in the years from 1876 to 1892, when Grede's method would not have been employed for any of the cases to an average of 25.4 per cent. in the last seventeen years, when the method would have been somewhat widely employed—that is a fall of 16.4 per cent. The author also reports on the results of treatment in 426 births at the School for Midwives in Munich. In 14 cases, 3 per cent. of the whole, the mothers suffered from a muco-purulent vaginal discharge, but none of the children in these cases developed ophthalmia. In 7 other cases, where there was no suspicion of disease of the mother, there was a purulent eye affection in the child, but only one of these was gonococcal in character—that is, 0.2 per cent. Even this case might evidently have been avoided, and was probably due to some defect on the part of the nurse, since the inflammation affected one eye only. The article concludes with a strong recommendation for the use of the prophylactic treatment in every case, the best solution to employ being one of silver acetate.—*The British Medical Journal*, December 23, 1911.

Taenia in a Suckling.

Comby (*Arch. de med. des enfants*, July, 1911) describes a case of taenia saginata in a girl 9 months old; the child had been given for three months raw beef juice. This was the first case the author had seen a child under 1 year. Numbers of rings were passed in the stools, but the head was not found. The child was lost sight of, and at the age of 3 years she returned and was treated with male fern, and the worm, head and all, was passed.—*The British Medical Journal*, December 2, 1911.

Acute Poliomyelitis and Diet.

Adams (*Amer. Journ. Obstet.*, October, 1911) reports a case under his observation where an infant, 16 months old, had lost the use of his legs after exposure to cold, but otherwise appeared perfectly well. The epiphyses were very tender. The child, after being put on a full milk diet with orange juice, was quite cured five days later. Adams is of opinion that many cases of poliomyelitis that were rapidly cured were truly instances of scurvy, and he urged that all poliomyelitis cases should be treated carefully, even if experimentally, to satisfy the parents. In referring to the recent epidemic at Boston, the patients were put in a room adjoining a main ward in the city hospital, but were attended by the same nurse as the ward patients. No cases had been proved to arise in any of the hospitals in the same city. In one district 800 cases had been reported yet no two in the same family. In one there were thirteen children, yet only a single infant suffered from the epidemic poliomyelitis.—The *British Medical Journal*, December 2, 1911.

A New Preparation of Opium.

Parasporo (*Rif. Med.*, August 28th, 1911) gives his experience of pantopon, a new preparation of opium. It is soluble and contains all the alkaloids of opium in the form of hydrochlorates, but freed from the colloid material (fats, wax, and resin). Owing to its easy solubility it is rapidly absorbed, and may be given by the mouth or hypodermically. The ordinary dose is 1 to 2 grains hypodermically. It may be used in all cases where opium or morphine is indicated, and, except in very rare cases, does not give rise to any of those unpleasant effects which are often seen after the administration of morphine. Moreover, it succeeded in some cases where morphine had failed. Owing to its greater solubility, it is not indicated in cases where prolonged use of opium (for example, in some intestinal diseases) is necessary, but as a sedative for troublesome cough, as a hypnotic, as an analgesic it is said to be superior to morphine; in haemoptysis, peritonitis, appendicitis, and painful post-operative conditions, the author has found it very useful. Fourteen cases of various kinds of disease are given in brief where pantopon was given with success. The preparation was first introduced by Sahli.—The *British Medical Journal*, December 16, 1911.

The Originator of Ether Anaesthesia.

Dr. Dudley Buxton, in a paper on Crawford Long, the pioneer of ether anaesthesia, pointed out that Long sprang from a family of strong intellectual bias, was himself at once an exceptionally able man imbued with professional horror of advertisement and premature exploitation of hastily worked-out research. At the time of his first experiences with ether inhalation in 1841 that drug was unknown except as an exhilarant, for which purpose it had been employed by Beddoes, Pearson, Warren, Cullen, and others. Long observed that painful knocks, etc., were not felt during the exhibition of ether, and so employed it instead of nitrous oxide to produce full surgical anaesthesia. This he did in 1842. Subsequent successes led to remonstrances from neighbouring medical men, who feared a disaster. Long practised in a small village out of touch with surgical centres, and refrained from publishing his work, although it was well known throughout the State of Georgia. When Morton sought to obtain sole recognition from Congress (and a sum of money) for his nostrum "lethion"—which was really sulphuric ether—Long was persuaded by his friends to publish a succinct account of his cases done four and a half-years earlier. Long refused to court further recognition. The paper was illustrated by a series of interesting photographs of the original documents, proving the justice of Long's claim to be accepted as the first person to suggest the use of ether for anaesthesia and to be the first who actually so employed it. Besides tracing Long's career, the lecturer gave a full account of the actual work done and the state of medical thought concerning mesmerism and attempts at painless surgery. The methods of 1841 and 1911 were contrasted and comparisons instituted, a final appeal being made that those who practised anaesthesia nowadays should supplement their practical skill by research, so that the art should follow the extension of science.—The *British Medical Journal*, December 16, 1911.

The Leucocyte Count during Sleep.

G. Fulpius (*Sem. méd.*, June 28th, 1911) draws attention to some interesting facts in this connection. Hitherto the influences of food, fasting, exercise, and certain medicaments have been recognized as affecting the leucocyte count. The author points out the sleep must be added as another physiological factor, which produces a marked variation of the leucocyte equilibrium. Impressed by

the discordant reading of the blood in tuberculous cases, very comparable clinically, the author has come to the conclusion that the time at which the blood count is made is responsible for this. If the blood of an individual asleep or just awake is examined, it is found that the lymphocytes, which are normally 25 per cent., rise to 40 per cent., or more, while the polynuclears diminish in proportion as do the eosinophiles and basophiles. Two or three hours later when the patient has begun to move about, the normal ratio is established. The actual total of leucocytes per c.mm. undergoes only slight variation, as do the red cells and percentage of haemoglobin. The author quotes, among other cases, that of a tuberculous patient whose blood examined during sleep gave a total of 18,500 leucocytes per c.mm. Of these 74 per cent. were polymorphonuclears and 16 per cent. were lymphocytes. The result of an examination later in the day showed a total of 17,500 of which 80 per cent. were polymorphs and 7 per cent. lymphocytes. Indeed, a tuberculous person examined during the day may present a lymphopenia, whereas during sleep and rest there may be a normal average of lymphocytes. The author suggests that the slowing of the circulation during sleep may suffice to explain the condition as an unequal distribution of the elements of the blood—the heavier elements accumulating in the heart and great vessels, while the lighter elements circulate in the peripheral vessels. He is not, however, satisfied with such an explanation. The results obtained, however, go to show that, contrary to the usual opinion, the leucocyte equilibrium is not constant physiologically apart from the effect of food, exercise, and other influences.—*The British Medical Journal*, December 23, 1911.

Ipecac. an Amebicide.

In an endeavor to find a reason for the good results often following the administration of ipecac. in dysentery, Captain Vedder, of the U. S. Army Medical Corps, stationed in Manila, watched the effect of the drug on cultures of dysentery bacilli and upon the amebæ. He found that ipecac. killed the bacilli in the strength of 2 per cent. of the fluid extract, but this is a greater proportion than would exist in the intestine after a dose of this remedy. Upon the amebæ, however, the drug has much more marked action, these organisms being always killed by fluid extract of ipecac. in a dilution of 1 : 50,000, and sometimes by a dilution as high as 1 : 200,000. Incidental to his experiments it was discovered that not all the fluid extract of ipecac. on the market reaches the alkaloid-content required by the U. S. Pharmacopœia.—*The North American Journal of Homœopathy*, November, 1911.

Treatment for the Opium Habit.

Anderson in the *China Medical Journal* believes that the gradual withdrawal of opium from those wishing to break the habit, is prolonging the agony to an unnecessary length of time. He invariably withdraws it suddenly. This always produces a catastrophe, but he has a theory that it is possible to distract the protoplasm in that part of the body which objects and causes the distress. By this distraction of the protoplasm the patient is relieved at once and has the promise that he shall go back to his work at the end of the seventh day. Out of a large number of men treated, it is rare for any to fail to be ready at the expiration of that time unless he has some intercurrent disease. It is necessary for the success of the treatment that the physician have the active and hearty co-operation of his patient. A good plan is to make him put down a sum of money as evidence of good faith, with the understanding that if he breaks faith the money shall go to the hospital. Then the patient is given liberty to go wherever he wishes, and he is told that he is neither a prisoner nor a lunatic, as it fidgets the patient to think that he cannot go out. The mind must be occupied, so the patient is given things to do and to talk about and is emboldened to argue, being also reminded that he can talk lying down. He never tells them that they will not feel distress, but he does tell them that he has a remedy for it. The patients are thus comforted and generally obedient. The author immediately

prescribes liquor strychnine and tincture of strophanthus, which he prefers to digitalis in these cases, and mixes it with some preparation of the kola nut, which contains caffeine. If gastric symptoms be prominent, he combines them with a preparation of erythroxylon coca. The bone and muscle pain is controlled by a 30 grain dose of sodium salicylate. Hot baths and an electric current will almost always relieve muscular twitching. Insomnia, which is a serious complication, he combats with a meal at 6-30 to 7 P. M., and syrup of chloral hydrate 30 grains with potassium bromide 30 grains, making two doses, one taken at nine and the second at 9-45 if the patient be still awake. Good food, malt and oil, and careful observation of the patient are all equally necessary. But he has never had any death from the sudden withdrawal of opium although he would give small doses of morphine unknown to the patient if he were in danger of losing him. But the main point is to engage the protoplasm and to treat whatever symptoms arise and not play with them. Give a dose to get an effect and follow it up in another hour if the protoplasm does not respond.—The *North American Journal of Homœopathy*, November, 1911.

Medical Examination for Marriage.

As a sign of the times, it is herewith recorded that a bill providing that men applying for a marriage license shall undergo a medical examination, was passed in the house of the Indiana legislature, February 21. Other State assemblies are wrestling with the question of enacting such a law, and everywhere it is evident that the general public is increasing in intelligence. With a broadening of the mind comes an increased moral recognition of the essentials of good government. The future of the republic is secure in spite of a few signs to the contrary.—The *North American Journal of Homœopathy*, December, 1911.

The First Female Doctor of Athens.

It is interesting to note from an article which appeared in the *Frauen Rundschau* that the practice of impersonating men is not the exclusive prerogative of nineteenth-century women. There existed a law at Athens forbidding the exercise of the art of healing by women. The story goes that one day a good-looking youth

presented himself before the famous physician, Hierophytes, demanding to be enrolled among those to whom he taught the science of medicine. Since he seemed to possess every qualification demanded of those desirous of becoming students of that science—namely, legitimate birth, celibacy, and the masculine sex—the youth was accepted and very quickly earned the approbation of the old physician by his extraordinary zeal. It was noticed, however, after a time that he rigidly confined his ministrations to patients of the gentler sex, with whom he became so popular that his brother practitioners began to feel that his success was reflected on their pockets. Believing that his powers of fascination were to blame for this, they haled him before the magistrates on a charge of seducing his lady clients. The victim of their prosecution was perfectly cool when face to face with his judges, merely smiling and remarking that the charge was ridiculous, inasmuch as he was a woman! The prosecution broke down completely, but matters could not remain at a standstill, since, by exercising the art of medicine as a woman, the “youth” had let himself in for a death penalty according to Athenian law. He was, however, not deserted by his clients, for the women of Athens formed a league to defend him, and ultimately obtained his release. Later the law itself was altered, and the first female physician of Athens allowed to resume her profession.—*The North American Journal of Homœopathy*, December, 1911.

Gleanings from Contemporary Literature.

POPULAR CONCEPTIONS OF MEDICINE AND THE AIMS OF HAHNEMANN.

BY ALFRED PULLAR, M.D.

When your Council did me the honour to invite me to lecture here it was not without some hesitancy that I consented, and chiefly because I could not quite determine in my own mind what aspect of medicine would be most likely to interest the public. For, of course, you know that our science is many-sided, and necessarily so technical in some of its phases as to be suitable only for a medical audience ; and yet the general conceptions on which the work of the physician is based can surely be apprehended by intelligent people.

In very early days, it is true, the temple of *Æsculapius* was strictly reserved for the disciples, and none save initiates were admitted to its precincts. But in our modern times since the schoolmaster has been actively at work, and some general acquaintance with science diffused amongst the public, the spirit of inquiry has extended into regions not explored formerly ; and hardly any shrine is deemed too sacred to be unapproachable. Now for my own part I do not think we need regret the breaking down of some of the exclusive barriers, for, after all, there is nothing so mysterious in the inner sanctuary of medicine ; and I would even go so far as to say that the official custodians have not had all the most valuable treasures of our art under the aegis of their temples. Whilst their ritual in the past has doubtless been imposing, we cannot be expected to do homage unreservedly to what is only suggestive of a *Mumbo-Jumbo* set up and paraded as an authority on all questions relating to therapeutics, when we know that the official survey is an extremely restricted one at the present day. Having in view, therefore, the hindrances to improved medication, resulting from such inadequate knowledge, and also from mere prejudice on the part of those set in authority, it seems to me that the only course is to submit the whole matter to the judgment of the public.

It is only in quite modern days, however, that the learned cult of medicine has condescended to explain things much to the public, or to credit the latter with any opinions that might be worth consideration. In the "good old days" people were simply told by their doctor that, for example, periodical bleedings, or cathartics, or other remedial measures (save the mark !) were requisite and necessary for the health of the body, and rarely would it appear that the oracular statement was contested. I suppose it might be said of the unfortunate patients

Their's not to reason why,
Their's not to make reply,
Their's but to do or (and) die.

When we reflect that for over fifteen centuries this kind of thing went on in the world, there is assuredly reason for some thankfulness that at length such a form of tyranny was brought to an end, and the public became sufficiently educated to resist the domination of professional exponents of the medical art. I have thought that it might not be without interest if one were to attempt to trace the growth and development of this freedom, this liberation from the thralldom of wrong conceptions of the aims of medicine. I think you will agree with me that emancipation has been an extremely slow and gradual process, and as with some other phases of liberation, certain steps of the way have involved a bitter struggle,—and what is still more unfortunate,—a sort of internecine warfare between those who might have been expected to present a united front in the great combat with disease.

When we look back on the past we can hardly wonder that the art of medicine—with manifold motions—made little speed towards reliable methods of work ; for, as we shall presently see, wrong ideas dominated the whole situation. There is assuredly no art more beneficent when it is well done, and none more fraught with pernicious consequences when it is ill done. Whilst I would fain believe that “through the ages one increasing purpose runs,” making for the good of mankind, yet I cannot help feeling perplexed by the long duration of what one can only regard as the dark ages in medicine. The thoughts of men have no doubt “widened with the process of the suns,” but how long it has taken to obtain even a slightly more extended horizon ! As Dr. Burford pointed out recently in his interesting and suggestive address on “The Medicine of the Future,” this last century has seen more real and abiding progress in our science than all the previous centuries put together. With such a record one would have expected that open-mindedness on the whole subject would be the only reasonable position. But in medical questions this does not seem to be attainable without first getting rid of the accumulated dust of ages along with quantities of rather musty cobwebs which tend to obscure the reality of things. I suppose Lord Rosebery would describe them in his graphic manner as “flyblown phylacteries.” Such encumbrances are of course not unusual in old temples, the guardians of which are always conservative in their views, especially objecting to renovations of any sort. Well, this may partly account for the long period to which I have referred, that it has taken the world to emerge from fantastic theories of all kinds as to the nature of disease, and equally fantastic notions concerning remedies. Indeed medical history is hardly pleasant reading, for there seems no limit to the pernicious influence of wrong theories on the practice of our art ; and I do not like to risk wearying you with such antiquarian lore.

The wide waste of medical history is somewhat dreary, and, unfortunately, it is not like that of the Antarctic which can at least be rendered more attractive by cinematograph pictures ; there is nothing in the ancient sky of our region to lighten the prevailing gloom. The historic record of

medicine begins about the year 560 B.C., and prior to that date I suppose the conceptions were, like the great globe itself, "without form and void." Fetichism must have existed for a vast period, just as amongst savage tribes in our own days. The whole environment of man was incomprehensible to him, and doubtless his bodily aberrations were still more mysterious. From this nebular stage, medicine began to emerge about the time of Hippocrates, and from that date onwards, philosophers speculated and founded schools which flourished for a time and then sank into oblivion. Their little system had their day. They had their day and ceased to be, for they were but broken lights, glimmerings of truth, and nothing more. Amongst the theories that prevailed longest was what was known as the humoral system, which attributed disease to changes in the fluids of the body, peccant, humours and such-like, the aim of treatment being to alter the quantity or quality of the fluids. Bleeding was the dominant method in vogue, nor was the treatment limited to the actual period of the disease, seven or eight bleedings annually being the ordinary rule to ensure health. Take for instance the case of Louis XIII; within a single year this humoral theory inflicted on that unfortunate monarch above forty bleedings and a hundred cathartics. Think of it, fifteen centuries for mankind under such a *regime*. Again, disease was conceived of as some sort of entity that had to be driven out of the system; but we know that in dealing with vital phenomena, force is no remedy. Even to enumerate the endless theories and modes of practice consequent thereon would overstep the limits of permissible tediousness. Let it suffice to tell you that even so late as the eighteenth century there was but little reliable knowledge concerning the action of medicines, and the staple methods of treatment then in vogue were bleeding and cathartics. As one philosopher said the whole art was founded upon mere conjecture, another averred that the only difference between doctors was that some killed their patients by bleeding too much and some by bleeding too little. Dr. Gregory (who was the last of the learned Scottish physicians, and for many years at the head of the Edinburgh Medical School) wrote that "he did not know of any one disease or any one remedy that had not been the subject of controversy." He thus sums up his confidence in the wisdom of medical practitioners assembled at some professional gathering. "I am sure that I would not trust one paw of my great Newfoundland dog to a consultation of thirty or three hundred of them." As a general comment on the whole record of theoretical diseases and remedies, it would perhaps be more generous to quote words written by Browning in reference to other questions:

God's gift was that man should conceive of truth,

And yearn to gain it catching at mistake

As midway help till he reach fact indeed.

Now at this stage, and before proceeding to the second part of my subject, I would like to emphasize the point if it is only with reference to medicinal knowledge that my comments are to be understood as

applying; for there are other branches of our science concerning which all schools are in accord. With regard to surgery, for example, we all recognise fully the great advances which have been made during the past quarter of a century. I yield to none in my admiration of the triumphs of surgery within its own sphere; but it is a thing apart from the work of the physician. I may, however, be permitted to observe that the comparative safety of operative surgery at the present day rather tends to make it more often resorted to than it ought to be, for we know that many conditions thus dealt with are at an early stage amenable to constitutional treatment.

Having sketched in mere outline a few of the speculations of the past concerning the problems of medicine, I propose to contrast these with the aims of the physician under what I venture to designate the new *regime*. When Hahnemann was born (1755) there was born a man destined to illuminate by his genius so wide a field that it is by no means easy to focus his work, and thus bring it all, or even the more prominent parts of it, into clear view. Hahnemann was destined to look at the problems from a new, an original stand-point, to act independently of the way anyone before him had acted, to revolutionise the practice of medicine, not by any new theory of disease, for, unlike all the medical philosophers who preceded him, he had no theory, no general hypothesis to cover the infinite variety of morbid phenomena. He recognised that the practice of medicine must be built upon more enduring foundations than ever-changing theories concerning the nature and cause of disease. It must, in short, be established upon facts—proved and tested. The founder of Homœopathy desired above all things to get at the core of the question from the practical side. It did not greatly interest him that men had speculated for ages as to the inner causes of certain deviations from health, nor was he much concerned about names that had been given to obvious types or manifestation of disease. For he looked upon these rather as expressions, mere outward and visible signs, results or what he called “ultimates” of the actual disease process. They were not the disease itself, which latter, in his view, was not a uniform or constant factor, but one which differed in every patient according to the idiosyncrasies of each individual, determined by a multiplicity of hereditary or acquired tendencies. In short each patient's disorder was a study in itself, with characteristic peculiarities—mental and bodily—the exact elucidation of which was not essential (however interesting it might be), it was not essential to the attainment of the object aimed at by the physician, namely, cure; this was the thing that mattered to him. The inner secrets of vital aberrations Hahnemann regarded as for the most part hidden from our view. In the preface to his essay on the Magnet he says he does not “expect ordinary, mechanical, materialistic and atomistic heads to be able to regard diseases as immaterial alterations of the vitality or pure dynamic derangements of our state of health, and medicinal powers as merely virtual, almost spiritual forces.” But he asks “how they can

reconcile with their materialistic notions the fact that a single imponderable spark from a Leyden jar gives a shock to the strongest man, and yet no ascertainable ponderable substance is communicated." I quote the foregoing passage merely to illustrate in a general way the difference in his point of view in his whole conception of the problems of medicine, from that which prevailed at his time. Nevertheless Hahnemann proved—and it has been demonstrated in myriads of cases since his day—that these subtle disturbances of the normal equilibrium, which we call disease, were capable of being dealt with curatively by minute observation of the symptoms, of the *ensemble*, objective and subjective,—presented by the individual patient. The nomenclature of disease was less important than individualization of cases. "The Physician's high and only aim," says Hahnemann, "is to restore the sick to health—to cure." This was the standard of efficiency and the counsel of perfection set before us by this great teacher.

Do you think the old "leeches" (as the doctors were not inappropriately called) of the seventeenth and eighteenth centuries had any glimmering notion of such aims, or any understanding of what such efficiency in treatment signified? When these apothecaries dispensed loathsome "stuff" by the gallon, charging the quantity thereof in the bill, they were practising little better than a trade—and a less honorable one than that of say a grocer. The doctor was a sort of "emergency man" called in like a plumber, when something went wrong with the pipes. The craft was mechanical, and crude in all its methods; and this was the profession that had no use for the teaching of such a master as Hahnemann. I will not attempt to describe the polypharmacy of that time or the mixtures of ten or more drugs all of which were expected to find their way to some wholly unoffending portion of the human frame. This was the condition of medicinal art when Hahnemann entered upon the duties of his profession. Little was known of the action of medicinal agents, for men had not learned how to use intelligently the weapons which were in their hands. If we consult the highest authorities quite outside Homœopathy, we find them declaring with one accord that up that time—up to our own day in fact—medicine had no fixed principles as a science, no definite rules as an art. Commenting upon this state of things our late revered colleague Dr. Dudgeon wrote as follows: "This lamentable incompleteness cannot surely be owing to some peculiarity in the subject of medicine that renders it impossible to formulate principles and rules for this alone of all sciences and arts. Nor is it for want of trying on the part of the eminent and learned men who have adorned the profession. How comes it that according to the most trusted authorities of recent times medicine still remains unprincipled and unregulated? It must be because those who have attempted the task have set about it in the wrong way. The men who before Hahnemann founded schools of medicine, pursued one common erroneous method. They evolved from their inner consciousness a theory of disease, and adapted to theoretical diseases equally

hypothetical qualities of medicines. This was considered 'the only 'rational' way to work, and is so still. Rational it would be,—strictly logical it would be—if only the theories were reliable, but unfortunately the premises have often been false ; and correct reasoning from unsound premises inevitably tends to erroneous conclusions."

Let us return for a few moments to the career of Hahnemann. Finding after some experience that in the then state of knowledge his work as a physician was devoid of any reliable guiding principle, he decided that as a conscientious man he could not any longer undertake the responsibility and relinquished practice—for a time at least—until more light should come, if it ever were to be vouchsafed. Now I had thought of tracing in detail the steps of experimental research by which Hahnemann—after long years of laborious investigation—demonstrated that medicinal agents cured disease by virtue of their power to produce similar diseases in the healthy human being. But on further considering the matter it seemed to me that this is hardly the occasion to set forth what one might call the scientific evidences of the law of Homœopathy, for such information is readily accessible to everyone interested in the subject. You are not to regard it merely as a doctor's question, for it concerns the public even more vitally ; and, indeed, it has often struck me that popular apathy on the whole matter is at the present time one of the chief hindrances to the full recognition of our method as the most important advance in the science and art of therapeutics. Reverting to the story of Hahnemann's life and achievements, I think it would be difficult to find a more fascinating one even as a human document, in the whole range of literature. It is the presentment of a man gifted with profound insight into natural phenomena ; of a mind practical and absolutely sincere in its endeavour to get at the actual truth of things ; of a spirit attuned to fine issues. The whole history of medicine does not offer another instance of such a combination of learning, accurate judgment, laborious research, painstaking accumulation of facts, and masterly deduction on strict Baconian principles from these facts, as we find in the great pioneer of the true way in medicine. Moreover, I must tell you that Hahnemann had enriched the entire field of medical science prior to his great discovery. As I have already observed, it was not the aim of this illustrious philosopher to revolutionize the practice of medicine by any new theory of disease for, there had been too many and they had proved barren and unfruitful. What was to be done here and now to better the deplorable state of things ? This was the question which gave our Master no rest until he found the solution—the practical answer how most efficiently to help sick and suffering people. Hahnemann did not speculate as to the inner nature of disease, nor did he enunciate a cut-and-dried system from the theoretical side—springing, as it were, from his brain fully equipped and developed like Minerva from the brain of Jupiter. The practical result of his work was the outcome of long years of patient, unrecognised, unselfish experimental research ; when it was accomplished it was as clear and definite

as an axiom of geometry, and any man who accurately puts it to the practical test (which is the only way) can prove it for himself. It remains true for all time—whether it is fully acknowledged or not—as the most widely applicable law of drug action. If the physician will not test it honestly and utilize it in practice, then so much the worse for the quality of his work. If he refuses to avail himself of the vast stores of knowledge which have enriched the archives of medicine as the result of minute, carefully recorded observation of the positive effects of medicinal agents in the human body, then I say that such a man is not fully equipped for the work he had to do in the world. If the public were aware of the real inwardness of situation, we should not have to present *Apologia* for our endeavours to advance practical medicine. I believe that the facts have only to be known to ensure public recognition and full encouragement for work so beneficent in its aims. For I would here point out that much of the work to which I allude represents valuable assets for all students who desire to find detailed records of the effects of poisonous agents upon the human organism. There is a vast picture collection—if you like to call it so—all realistic work too, not imaginary subjects, not fanciful presentiments of the action of poisons, but the actualities. There is not a venomous reptile or insect in the world that is left out if we can get an exact picture of its effects on persons bitten, for these phenomena suggest its possible curative powers in homœopathic attenuation. Would you believe that this unique art gallery of ours is entirely neglected even by those ardent students of therapeutics who are so eager to learn the action of medicinal agents that they have to experiment upon the dogs and another animals? They will not even examine our (verifiable) records of morbid phenomena produced by poisons of manifold kinds, which are of more value from the scientific standpoint, than information derived from experiments upon “a wilderness of monkeys.” Now, the people of the United States are, above all things, practical, and to their credit be it recorded that they long ago recognised the real obstructionists of medicinal science not in opponents of vivisection, but in official pedants who are ready to strangle any new truth at its birth if it seems to conflict with traditional ideas. As Dr. Burford clearly shows, in the address to which I have already alluded, the obstruction of our therapeutic method was largely due, in the first instance, to the simple inability of contemporary science to link up with a medical discovery so advanced as that of Hahnemann, so far-reaching in its significance. Therefore, as he truly remarks, Homœopathy has had to pay the price—and assuredly a heavy one—of being an advancement of learning made out of due time. The work of Hahnemann as I have said, illuminated the whole subject of poisons, and brought out in the most incontrovertible way that in things seemingly evil there is an inner beneficent power if only we know how to elicit and use it.

Whatever view we may take of the contrast between the old and the new conceptions of the practice of medicine, I think it will be obvious

from what I have tried to set before you that the difference in aim is a very wide one—the ideals are as poles asunder. Now I am not sure that medical men themselves are in general more competent than the public to judge or to appreciate high accomplishment in practice. There are many physicians in name and reputation, but comparatively few in reality and effect. Here you have a profession which is, after all, somewhat of a compromise between purely humanitarian aims and, to put it plainly, business. I have often thought that the great offence Hahnemann committed in the eyes of the profession was that he popularized medicine, which before had been a sealed book to the laity ; for you know that the learned cult of medicine was a “close guild” walled round, and with notices against trespassers. It was associated, too, with vested interests of many sorts, such, for example, as those of the purveyors of drugs. Then it is hardly needful to remind you that by many doctors, practice is not necessarily regarded as a scientific pursuit, the sole aim of which is to reach the highest standard of efficiency : it is just on the same level as any other calling.

But you will no doubt perceive that the general outlook of Hahnemann was somewhat different, and that his ideals meant the disruption of conventional notions in many ways. His attitude towards the practice of medicine was in fact quite a novel one, and represented, I think, the altruistic in contra-distinction to the business aspect of such work. For the one thing that mattered to him was the highest standard of efficiency obtainable. Was this aim of Hahnemann too high for the common uses of this work-a-day world ? Well, perhaps in some respect it was, but it all depends upon the point of view. People are apt to despise anything that transcends their own plane, being sometimes unable to appreciate more subtle issues : and candidly I am inclined to think that many engaged in practice of medicine are somewhat indifferent to the development of therapeutics as a fine art. It seems to me therefore that the question resolves itself into what standard of efficiency is expected or desired by the public. Of course, I admit that it is not easy for the laity without actual knowledge to gauge efficiency in the practice of medicine, for the traditional estimate has been fashioned and framed on quite other lines than those laid down by Hahnemann. In truth, it seems to me that there is no actual standard by which the public can gauge medical service at its real worth. There cannot be any doubt, however, that even from the economic point of view the advantages of homœopathy are largely on the side of the public, as in nearly all cases the duration of illness is much abbreviated, whilst it is equally certain that serious disease is often averted if homœopathic treatment be adopted in the early stages.

It must be remembered that the practitioners of homœopathy, in addition to all the ordinary acquirements and experience is in possession of special knowledge representing a vast increase of resources for dealing with all manifestations of disease, even those which have not been found amenable to routine treatment. Now I do not say that you will necessarily get the

perfect interpretation of the method from everyone who practises Homœopathy, for you must understand that in this, as in other fine and difficult arts, there are diversities of gifts. But this I do affirm, that the method itself is right, and that in its complete exemplification it is by far the most efficient development of the practice of medicine the world has yet seen. You may call it a "speciality" if the term pleases you but whatever view you may take of the subject, I can only express my profound conviction that Homœopathy is a valuable asset to the public, and that it ought to have a free course, untrammelled by the stumbling-blocks which have been placed in the way by ignorance and prejudice. It is for this great and beneficent object that the British Homœopathic Association was inaugurated. Had official medicine done its duty steadily and honestly by the work of Hahnemann from the first, adjustments would have been possible which would have saved us, as physicians, from what seems like a "sectarian attitude," for which we have been so unfairly blamed. But it was the absolute inelasticity of the official position towards the whole question that forced some of us to the conviction that it was not truth, or advanced knowledge, or higher efficiency in therapeutics that was desired, but conformity to a narrow interpretation of the aims of medicine. It was absolutely incumbent upon us to resist the arrogant claims of those who had never even investigated the question from a scientific point of view.

What of the future in relation to this fine art of Homœopathy—this definite and supreme law—tested and proved during a century of beneficent work? It has already changed the practice of medicine to an extent that can only be appreciated by those who know the abysmal depths out of which the art of therapeutics has been brought to its present position. But it is not enough for us that the work of Hahnemann shall be absorbed in a crude sort of fashion, into the general cult of therapeutics, nor that this special knowledge shall be simply utilized empirically and without any recognition of its source. We do not intend that Homœopathy shall be buried in a nameless grave—albeit the ground is officially consecrated—without even an epitaph to record its incomparable achievements for humanity. Such obsequies have been time and again arranged by *The Lancet* and other journals, but, strange to relate, Homœopathy is more alive than ever. For my part I would fain believe that our principle will yet take its place on the throne of the medical world, and with this consummation in view, I advise all who recognise its majestic claims to remember the words of Goethe's Marching Song :—

Here is all fullness,
Ye brave, to reward you ;
Work, and despair not.

The *Homœopathic World*, November 1, 1911.

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ANTHRACINUM IN SPLENIC FEVER.

By Dr. SAMUEL VAN DEN BERGHE,
Ghent, Belgium.

SPLENIC fever (charbon or *mal de rate* of the French, and *milzbrand* of the Germans) has been observed in all countries. It is an inflammatory disease, gangrenous, eminently contagious, very often epizootic, especially among sheep, frequently also attacking cattle and horses, but also capable of being transmitted to man, most frequently by direct contagion.

In man charbon has three forms: (1) Malignant œdema (rather rare); (2) internal charbon (which is exceptional); and (3) malignant pustule. The skin affords the commonest point of entry of the disease (whence the name of "malignant pustule") contamination taking place either by erosion of the skin existing beforehand, or more frequently by the bite of a contaminated insect. The infection may also break out in the internal organs, the gastro-intestinal tract, and in these cases symptoms of gastro-intestinal catarrh develop, bloody diarrhœa, intense fever, and death in collapse.

When the disease breaks out on the skin, there appears first of all a vesicle surrounded by a red zone, a vesicle which soon breaks to give place to a gangrenous brown induration with an œdematous ridge which is covered with secondary vesicles.

In proportion as mortification spreads an intense fever declares itself with vomiting, diarrhoea and meteorism, when pains in the joints, epigastrium and intestines appear, and the patient ends by dying in collapse, which is sometimes preceded by convulsions.

In the form called malignant œdema a formation of phlyctenules gangrene are preceded by œdema. The duration of the disease seldom exceeds a week and the fatal termination which very frequently happens much sooner shows the extraordinary gravity of the affection. At the autopsy there are found visceral alterations of a gangrenous nature and parenchymatous degeneration of the liver, spleen and kidneys. The blood is black and tarry. The specific bacillus, the charbonous bacterium, or *Bacillus anthracis*, appears in the blood and in the organs as well as in the malignant pustule.

The transmission to animals takes place, as Pasteur has demonstrated, by the earth which is infected by the bodies of charbonous animal buried at too little depth. Earthworms can bring back to the surface of the soil the charbonous spores taken by them from the bodies, and animals in cropping the plants inoculate themselves with the charbonous spores by way of some excoriation of the digestive *prime viæ*.

Whilst in man the commonest manifestation of charbon is the malignant pustule, the charbon of animals manifests itself above all in general phenomena (anthrax fever). The onset is sudden and the progression of the symptoms generally very rapid.

Long before the works of Pasteur, whilst the internal treatment of anthrax did not exist in allopathy, homœopathy was able to meet it with several valuable remedies, arsenicum album, lachesis, anthracinum.

The beneficent action of arsenicum in malignant pustule is well known, and is mentioned by the greater part of our authors.

My father related in December 1895, at the Cercle Médical Homœopathique de Flandres, a cure of malignant pustule of the thigh of the size of a small pigeon's egg, black in appear-

ance, surrounded by a red, livid, bluish ring, presenting lymphatic lines in all directions. The administration of arsenicum produces from day to day the limitation of the gangrene and the disappearance of the lymphatic lines, and of the bluish areola. A groove formed round the pustule which ended by being eliminated.

In his *Leitfaden*, published in 1869, under the rubric "Contagious, gangrenous pustule, or Milzbrand," Jahr published considerations so much the more interesting, as they established a parallel between the action of anthracinum and arsenicum.

"For the swellings (Beulen) or gangrenous pustules which alone here deserve consideration, arsenicum always remains the capital remedy, whether they are contagious or non-contagious, whether they have their source in Milzbrand or in any other cause. In the majority of cases I put it above the very uncertain action of anthracinum, although in concert with my colleague of Liege, on one occasion consulted by two peasants who, following the cutting up of a cow attacked with Milzbrand, had contracted pustules, gave the one anthracinum and the other arsenicum; and although the one treated with anthracinum saw, at the end of twenty-four hours, his wound transformed into a benign ulceration; whilst in the case of the other treated by arsenicum, the wound took thirty-six hours to make the transformation; this diversity in the results may be attributed to differences of constitution in the subjects as well as to the curative virtue of one or other of the substances administered."

In a memoir presented to the Homœopathic Congress of 1900, on "Homœopathy in Veterinary Medicine," M. Goutry, Veterinary Surgeon at Orchamps (Jura), points out that anthrax fever is cured by arsenic which is also prophylactic against it.

The Homœopathicity of lachesis is not difficult to recognize. It is the remedy which Dr. Richard Hughes advocates in his latest work, "The Principles and Practice of Homœopathy." It was, moreover, used with the greatest success by that eminent master, Carroll Dunham, in numerous cases of malignant

pustule which occurred at Brooklyn. Here are the terms in which Carroll Dunham reports it in his *Lectures on "Materia Medica."*

"In the year 1853, there prevailed quite extensively in Brooklyn an epidemic of what was called 'malignant pustule.' A furuncular formation appeared generally upon the lower lip, attended with severe pain and frequently surrounded by an erysipelatous areola. The most marked constitutional symptom was a very rapid and excessive loss of strength, the patient being reduced from vigour to absolute prostration within the space of from twenty-four to thirty-six hours. Allopathic physicians at first resorted to the local applications of nitrate of silver to the pustule.

"In those cases, thus treated, which came under my personal observation, death followed cauterization within twenty-four hours.

"In eight cases treated by myself, lachesis was the only remedy used. It relieved the pain within a few hours after the first dose was given and the patients all recovered speedily."

The circumstances that Carroll Dunham, quite at the outset of his career in the course of a tour of scientific observation which he made in Europe, contracted at Dublin an anatomical wound, cannot have been unassociated with the choice of a remedy which gave him these remarkable results in the treatment of malignant pustule. When, as the consequence of this wound, his condition was recognized as irremediably lost, Carroll Dunham had recourse to homœopathy, and found his salvation in the employment of lachesis.

The third of the remedies indicated, anthracinum, is less generally known. It is, however, a remedy of the greatest value. The following facts confirming the results of other observers are demonstrated in a preemphatic fashion.

On December 1, 1910, a veterinary surgeon asked me if I could come to his aid by my advice for the treatment of several cases of anthrax, which had appeared in his clientèle during the last few days. One cow had already succumbed, and the

gravity of the disease made him fear the same lot for the rest of the animals attacked. He had already tried several homœopathic remedies, among these arsenicum album and nitric acid, the practitioner having failed in homœopathic medicine of which he made from day to day a larger use, and to which he owed several striking successes.

I pointed out to him among others, lachesis, but recommended very specially anthracinum, an alcoholic extract of the charbon virus* prepared from the spleen of a sheep attacked with the disease.

He proposed to try a low dilution thinking it necessary to oppose a material dose to a malady presenting such deep alterations, but I told him that the 30th dilution would suffice for the cure.

On the 23rd of the same month, I had the satisfaction to learn that the treatment by anthracinum had had full success, and I cannot better express the enthusiasm which these cures have aroused in him than by reproducing the terms of the letter which I received.

"I can affirm without possible doubt," said the veterinarian, "the sure, rapid, specific and invaluable action of anthracinum in the case of bacteridien anthrax (*charbon bacteridien*), that is to say, with swelling of the spleen. There will remain the trial in bacterian anthrax (*charbon bacterien, ou charbon à tumeurs*).

"The two cows of Q——, to which I had given among other things arsenicum and nitric acid, were kept alive for three or five days by this treatment, but were cured in less than a day by a few doses of anthracinum 30. Several days ago I had the extraordinary opportunity of meeting identically the same case in a farm at R——. A cow having succumbed to anthrax had been slaughtered in the stable. The next day in the same stable a second cow showed, with other symptoms of anthrax, a temperature of 41°. The immediate administration of anthracinum made the temperature fall from the evening to the next morning to 38·4°, and the same day the cow was cured.

"A cat had eaten of the meat from an animal which had succumbed to the disease, and it died of charbon. A little dog had licked some of the blood; next morning it was found with the head, tongue and throat swollen as if in the death rattle. The father gave the remains of a dose which was left in a bottle that had contained the anthracinum potion, and an hour after it got up. In the evening they showed it to me as it had become worse again; I made them give it immediately anthracinum and repeat it every hour, and to-morrow it shall be cured."

I could not help enjoying the future tense employed "shall be cured;" it indicates well the state of mind in which the observer found himself as a result of the rapidity and constancy of the cures effected. This letter has struck me all the more because this veterinarian, a judicious observer, is above everything sceptical by nature and only recognized in a cure the relation of cause and effect in the face of the irrefutable logic of the facts.

Observations concerning anthracinum are not very numerous, its pathogenesis has scarcely been sketched in outline, and in many of our treatises on *Materia Medica*, no mention is made of it.

Dr. Pinart, in the July number of *La Revista Homœopathica of Barcelona* 1904, recommends this isopathic medicine in cases of anthrax, of furunculosis, of abscess, of buboes, and in general in all inflammations of connective tissue, acute and chronic, in which there exists a purulent focus.

The author quotes the case of a young man presenting in the submaxillary region small abscesses opening externally and constantly being renewed; many homœopathic medicines were administered without producing any effect. A few globules of anthracinum promptly got the better of the affection, but when the patient ceased to take the medicine for several months, the abscesses reformed at once.

I published, in the *Journal Belge d'Homœopathie*, in the year 1897, p. 240, a cure of grave carbuncle by means of anthra-

cinum, which I had given on the recommendation which Farrington gives in his "Clinical Materia Medica." It was the case of an enormous carbuncle which appeared on the nape of the neck of a man about 50 years old. The affection lasted ten days with very high fever, with so much swelling of the throat that all movement of the head was impossible, and atrocious sufferings had brought on insomnia, which lasted without interruption for four days. All the means employed up till then had remained without result. The patient had been told that his single plank of salvation rested in operation, to which they would proceed on the morrow. It was at this moment that the patient, wishing to avoid operation, applied to us. The administration of anthracinum 30 brought such amelioration that several hours after the first dose the patient was able to sleep. From the morrow there was sensible diminution of the fever and of the swelling. Two days later the situation was improved to the point that prolongation of treatment was judged unnecessary.

We owe to Drs. Weber and Pierre Dufresne the most interesting publications concerning anthracinum. In 1836, Dr. Weber, Aulic Councillor and Physician-in-Ordinary to His Highness the Prince of Solms-Lich and Hohen-Solms, author of a systematic treatise on pure pathogenetic effects, of which Hahnemann had written the preface, published a brochure entitled "Der Milzbrand und dessen sichersten Heilmittel."

In vol. viii. of the "Bibliothèque Homœopathique de Genève," published in 1837, p. 167, we shall find a review of Weber's brochure.

Weber employed anthracinum 30 x, and with the exception of three or four cases in which other means had been employed beforehand, or in which anthracinum had not been given in doses repeated with sufficient frequency, cured all the cases which were presented to him, that is from eighty to ninety which he had had attested by the local authorities.

In 1835 Dr. Pierre Dufresne in the fifth volume of the "Bibliothèque Homœopathique de Genève, p. 38, reports a

cure of malignant pustule by anthracinum. In vol. viii, of the same journal he published his "Reflections and Observations on Charbonous Anthrax" (pp. 200 to 221, and 271 to 284).

We take from this the cure of malignant pustule the brothers Henri and Francois Vallet, shepherds, contracted by handling the animals which had succumbed to the disease. In these different cases anthracinum was employed in the tenth dilution, at the same time a solution of several globules of that same dilution in a glass of water to which was added a spoonful of spirit of wine was used as a topical application on compresses.

The increasing mortality in the flock of the brothers Vallet, gave Dr. Dufresne the idea of trying as a prophylactic the serum collected by pricking the phlyctenules which surrounded the slough of the malignant pustule. He gave Henri Vallet a bottle containing 1,000 to 1,200 globules, impregnated with a fifteenth dynamization of the serum taken from his pustule, with the direction to give ten of them to every animal, three to four times at most, commencing immediately, then on the morning and the evening of the following day.

From this moment there were no more deaths in the flock.

I thought it useful and interesting, after having reported these cures confirming the value of anthracinum, to recall these memorable works of Drs. Weber and Dufresne published three-quarters of a century ago. There is room for us homœopaths of the present generation to feel legitimate pride in reading them; because, in spite of their ancient date, and the fact that at the epoch at which they were written one had no notion of the microbean nature of charbon, these works are always of practical value. Their principal part, the treatment devised, remains in effect eternally true because it rests on *similia similibus*. In this domain as in the employment of other nosodes, and in the case of anthrax, the works of Weber, and Dufresne are in advance by half a century of those of Pasteur. Pasteur, the first amongst the allopaths, has realized the prophylaxis of anthrax by the solution of cultures of which the

virulence had been attenuated. Others have walked in the steps always in the way of homœopathy.

Thus Tiberti (*Centralblatt für Bacteriologie* 1906) thinks he can conclude, as a result of experiments, that inoculation of nucleoproteid, derived from the bacilli of charbon, immunizes the ovine species against charbon. Dr. Lawen (*Deutsche Zeitschr. f. Chir.*, 1908) in a work on the treatment of malignant pustule in man, mentions seven cases treated by means of the intravenous injections of the serum of Soberheim, two of which were followed by a fatal issue. So Dr. Koelsch (*Munich med. Wochenschr.*, 1910) speaking of charbon, recommends the intravenous inoculation of the serum of Dr. Merck of Darmstadt. What is to be said of those who, of deliberate purpose, seem to wish to mix up the problem of prophylaxis by the use of mixtures of morbid products, like the mixture of the pyocyanic bacillus with the bacillus of charbon, as Dr. d'Agata proposes in his work presented to the Congress of Buda-Pesth of 1910? As might have been foreseen, the relation of his experiences does not avail for the deduction of any formal conclusions.

The present tendencies of allopathy, by its serotherapeutic procedure, vie with each other in confirming the conceptions of Hahnemann's genius, and in demonstrating the immense curative resources of the *Law of Similars*.—*The British Homœopathic Journal*, October, 1911.

MODERN SCIENCE AND HOMŒOPATHY.

BY EDMUND L. COMSTON, M.B., CH. B. VICT.,

Rawtenstall.

Homœopathy is both a science and an art. The art is, as all other arts are, the more important in everyday life, because of its practical application to the alleviation of suffering. We claim homœopathy to be founded upon a natural law, and, as it is by application laws are proved, it receives its strongest defence because the proof is undeniable. But we need all the help that

both science and art can give us, both for everyday use, and to meet and overcome the amount of unreasonable prejudice which homœopathy has often to face.

TERMS USED.

I shall require to use several terms which express theoretical ideas, and I wish to state at once that, as time and knowledge lead to clearer light, these ideas *may* be changed and replaced by truer ones. So I use them as embodying the explanation of knowledge so far as it has gone—the knowledge being certain even if the ideas deduced therefrom are not.

The principal terms are the following :—

Emanation.—This term, originally used to denote particles given off in a vaporous condition by a solid or liquid substance, is now often used to denote a more intangible influence which is given off by certain substances—*e.g.*, the radioactive bodies—which influence is akin to, though not actually, radiation.

Radiation.—This indicates a power or influence given off by a substance without anything material, so far as our knowledge goes, being concerned in the transmission. The best known examples are light and heat, which are transmitted immeasurable distances without known material agency. Other examples are known, and there are doubtless numberless unknown ones. Recent science has but touched the borderland of these wonders.

Vibration.—This term is used to express the idea that all activity, of whatever form, is, in its last analysis, of the nature of vibratory motion.

Forces.—This term expresses the sources of all activities of whatever kind.

The vital or life forces (or force, depending whether the plural or singular is used) therefore indicate the source of all the manifestations associated with life. The real nature of those forces, as of all forces, is indefinable, because unknown.

Matter.—This word, in the sense in which I shall use it, represents that part of the universe which we call the seen, and is the means whereby all the unseen is made manifest to us—*e.g.*,

matter is necessary for the revelation to our senses of the forces of light, electricity, and life.

Other terms I will explain as I proceed, but I need to speak very humbly and modestly, as there is so little really known, and so much yet to be known.

THE REALITY OF THE UNSEEN.

Science more and more reveals the reality of the unseen. I need not remind you of the wonderful demonstrations of this shown by such discoveries as radium, and wonders of electricity—*e.g.*, wireless telegraphy, X-rays, &c.; and it is all in one direction—the reality and potentiality of the unseen and imponderable.

The unseen, then, is the realm of force and life, in whatever sense we use those terms. And, I believe, that behind all is the Great Intelligence Whom we call Father, and Who has placed us in a universe where wonder follows wonder, and glory follows glory.

I use the words life, force, and matter as representing three well understood ideas, and not necessarily implying ultimate essential differences or nature. They are aspects of the universe perceptible to our very limited senses.

We know, by what we do not know, that the universe is as yet largely a closed book to us. As we try to read the first page we are filled with wonder when we learn that the universe is a cosmos and not a chaos, that it is eternal, that it is infinite in space, and that Omnipotence and Wisdom are everywhere.

But it seems as if the second page is being opened to us, and what we already have learned becomes more harmonious, and our conceptions broader and higher. We cease to talk as dogmatically as we realize what yet may be revealed.

WHAT IS MATTER?

Matter has long been regarded as ultimately composed of minute invisible bodies called atoms, the explanations of the sciences of physics and chemistry having been founded upon the properties of these atoms or the forces acting through them. But as knowledge has increased it is found that to regard

matter as being made up of atoms is altogether too coarse a conception, and that the properties exhibited by these theoretical atoms represent a fraction only of the amazing forces within each atom. And the properties of each atom-world are not those of the atoms themselves.

An altogether new outlook is opened to us, which shows clearly that the less materialistic matter becomes, the greater and more wonderful powers it possesses. And so, to use an illustration given by one of our professors of science, whilst it takes many million material pennies to pay for one of our warships, if all the energy locked up in a single penny could be suddenly liberated and used, it would be sufficient to blow that ponderous vessel almost into the unseen.

And I believe that amongst the most important problems for the science of the future will be the liberating of these powers where required, and locking them up where storage is needed. As an example of the latter, the long attempted storage of electricity is an illustration. What an undreamed of and marvellous world, with the solution of many problems, is about to be revealed to us. If such immeasurable forces are locked up in matter, and if these forces are only revealed in certain states of matter—as chiefly at present shown by radioactive bodies, but, doubtless will be revealed in many others as time goes on—what are we to say that matter really is?

It is not fully demonstrated, perhaps, but everything tends to point to the immateriality of matter, if I may so express it. And it is my firm conviction that the day is not far distant when it will be proved that matter is a form or state of *force*. But without going quite so far I will keep to the ascertained, as it will serve my present purposes quite well. For it is *demonstrated* that matter in certain states possesses powers not revealed in the more commonly known states, and that these states are in the region of the imponderable, and out of the region of chemistry and physics as hitherto known.

We divide the universe into the seen and unseen, the material and the immaterial, the realms of effect and cause. The unseen

is the realm of force and life, the seen is the manifestations of these. But we must remember that the terms seen and unseen are purely relative to our bodily senses, representing the interpretation our senses give of the Universe.

DISEASE AND ITS TREATMENT.

We have two factors in treatment :—

(1) Disease, or disordered health ; (2) remedy.

It is not my purpose to enter into an explanation of the nature of disease, except to make clear what I have to say about remedy.

In spite of the gross materialistic attitude which dominates so much of present day pathology, and which makes disease so dependent upon material agents, both living and non-living, the thoughtful man who goes to the heart of things sees more and more that, allowing full value to such causal agents, disease is essentially *disordered life force*. For it is only the life principle in a man that makes him capable of becoming a diseased person ; and the manifestations of disease are but the reaction of that life principle to those exciting agents.

A material cause is not essential for the exciting of a disease, *e.g.*, mental shock, anxiety, anger, &c. In a dead body none of the causes could produce disease. And it is quite certain that restoration to health comes from the activity of the life forces, as we all prove by everyday experience.

A little thinking will show that, in what we call chronic diseases, this disorder of the life principle is most clearly seen, for we have manifestations of ill-health with only a constitutional state to keep them going. It does not matter whether we regard the life force as belonging to each individual cell of the body or look upon it as an entity : it is an entity in practical life, for one part suffers with another.

The above explanation of disease being taken for granted, it follows that anything acting as a remedy must be capable of acting directly or indirectly upon the life force, and I will try to show that homœopathy, *par excellence*, does so.

DRUG ACTION.

And now a few words about drug action. I exclude drugs acting chemically, such as corrosives and the so-called irritants, which act by disturbing normal functions where they come in contact with tissues, and act upon the general system by the shock they produce.

And yet there are probably no irritants which, if their irritant effects were eliminated, do not belong to the third, and only important class, the specifically acting drugs, meaning by that the individual action which each drug induces and which is peculiar to itself.

Now, in the first place, we must remember that the so-called drug action *is not drug action at all*, but the action of the life forces produced by the presence of the drug. I do not know whether the experiment has ever been tried, but I suppose it would be theoretically possible to recover all the strychnine which has poisoned a living creature.

Drug Action not Chemical.

It is practically certain that, although modern allopathic pharmacy is largely built upon the chemistry of drugs, specific effects are not caused by chemical action.

And here is a very good illustration of the prophetic nature of homœopathy, for whilst allopathy is built largely upon the material and crude, homœopathy has been using for a century unexplained powers, which are to-day being demonstrated. Hahnemann tested his theory by proof, and found it was a law. Allopathy has often formed theories and raised them into laws, without proofs.

The following evidences may be attested that drugs do not act chemically to produce their specific effects :—

- (1) In poisonings no chemical changes (except such as result from vital action) are proved.
- (2) Poisons are found in the tissues as such.
- (3) Agents which act by radiation, *e.g.*, X-rays, produce as marked changes (even if local) as drugs.

(4) Quantities too small to have any chemical effect or to be demonstrable by chemistry act powerfully, *e.g.*, homœopathic attenuations.

(5) Disease is often of mental origin.

(6) Life is essential for drug effects ; and it lies beyond the scope of chemistry.

We can thus see that drug action must be of a much more subtle nature, and in fact bears more resemblance to a radiation or emanation ; that it is some property attached to the drug rather than the drug substance itself, and is what the drug gives off, so to speak. How else is it possible to explain the action of a $\frac{1}{100}$ gr. atropine scattered over the whole body, to say nothing of homœopathic attenuations ? For to use radium, thorium, &c., as analogies, we have here material substances giving off what we call rays which are imponderable and do not answer to the laws of vapours or gases and yet possess properties and activities far beyond what any chemical action can explain.

Drug Action is Affinitive.

It is further known that it is a law of the universe that there must be affinities between agents which influence each other. We have already seen that disease is essentially disorder of the life-force (or forces.) And I do not see how it is possible to reason otherwise than that drug action, whether pharmacodynamic or therapeutic, implies some property attached to the drug—its radiation or emanation—which is related in an affinitive sense to the life forces, and can thus call forth an action of the life forces. And this gives a clear explanation of how drug attenuation is possible, and in fact, in many cases, necessary. We require a medium that will receive and carry the radiations or emanations, and even to develop them from the material drug to which they belong ; and thus we get away from the original substance.

Thus, to use analogy, certain agents can receive from radium the radioactive properties and transmit them. A cruder illustration is that scents are not scents, unless there is an aerial medium to convey the emanations.

And this because attenuation brings the developed drug properties to the plane of the life forces themselves.

The proofs are necessarily imperfect as yet, but the evidence all points one way. Let us ever be humble and teachable, and thankfully receive new light as it comes, proving all things, and holding fast to that which is good.

We have a Cause worth all we can give to it. Wonderful as our results may be, we must all feel how much better they might be with more certain knowledge. Homœopathy leads to the development of the highest and best qualities in human nature, because it gives a great faith in the Unseen. And it is faith in the unseen side of life that is alone the source of all noble quantities.

Suffering humanity is not cured by powerfully acting unsympathetic drugs, which act upon the frail tenement as the storm, fire, and earthquake did upon the mountains round about Elijah in the days of old ; but by the sympathetic still small voice to which the afflicted life forces can respond, because it is the voice of God speaking through one of His laws.

Dr. Stonham, in the chair, thanked Dr. Compston for an interesting paper on a very abstruse subject. Dr. Stonham thought they could not deny the possible chemical action of drugs. One of the latest discoveries had been the treatment of syphilis by means of Salvarsan. That, he believed, had been proved to act because the drug formed compounds with the animal cells, which put the latter out of action, and made them unable to go on functioning and therefore they died. If that were the case, it was not surprising that one hundredth of a grain of atropine should have a great effect in selecting certain cells which were of vital importance. It was probable drugs acted by their vibrations, but in the present state of therapeutics medical science could not afford to neglect the chemical action of drugs.

Dr. Munster said that if it were necessary, in order to bring out the whole curative force of drugs, to dilute them to such

attenuations as they are diluted, how was it that when these drugs were applied to the healthy body in successive dilutions, that their action became less and less powerful? If attenuation of the drug really potentized it, one would expect that the drug would develop a more and more powerful action on the healthy body. This was known to a slight extent in the case of mercury, but even here it was not possible to go on getting a more and more powerful effect after even the first attenuation; and if this was so why should one expect, in disease, that drugs should be more curative in high attenuation than they were in the lower?

Dr. Goldsbrough doubted if the terms employed by physical science were appropriate to the phenomena of disease and life, and he thought Dr. Compston should have defined the terms "life force," "emanation," "vibration," "radiation," &c. These were not primarily biological terms. Further, there was needed in biological science some definition of "effect and cause" and of the difference between "material" and "immaterial." Dr. Goldsbrough thought for the future these physical terms should be thrown over. Medical scientists needed to start with the personality of the patient as the subject of treatment and to agree not to adopt any such terms as vital or physical force, but observe what the reaction of the patient to drugs was in the whole and different parts of his organism, and if an agreement could be attained that the phenomena were significant of certain other states that would be as far as they could go. He thought that if a drug increased its power when attenuated, the reason why it did not do that in health continuously, as it frequently did in disease, was not disclosed. The facts implied that in disease there was a different response and it was not safe to theorize about that until it was understood.

Dr. Blackley said the subject which Dr. Compston had brought before them was one that was vastly fascinating and could have been better discussed if they had had an opportunity of reading the paper over carefully beforehand. He felt very much, as Dr. Goldsbrough did, that the terms of physical

science were very difficult, if not impossible, to bring into direct relationship with vital phenomena, most of all with the phenomena caused by drugs. The author had said, that evidence tended rather to show that drugs did not enter into direct chemical combination, or rather, that the phenomena produced were not due to direct chemical combination. Dr. Blackley submitted, however, that in some cases, at any rate, there have been shown to be direct chemical combinations formed, especially in the case of some of the most powerfully acting drugs, such as phosphorus and arsenic, and he believed also with selenium and tellurium, which much resembled arsenic both chemically and physiologically. These were notorious for combining with nerve matter, and the combinations so formed have been isolated. It might be retorted that we do not know that it is these combinations which give rise to symptoms, but the presumption is fair that they do. This was conspicuous in the matter of arsenic, particularly, and its elective affinity for certain definite organs, such as the nerves, &c. They had had a good many cases of arsenical poisoning treated in the hospital during his (Dr. Blackley's) tenure of office, and these had been accompanied in many cases by neuritis. This was known to be characterized by degeneration of the medulla of the nerve, and he believed it to be accompanied by a definite chemical combination of the fatty material with the arsenic, and the same would probably be true of phosphorus. With regard to the effect of these drugs on the liver, phosphorus also enters into chemical combination with certain of the liver cells. The point which Dr. Munster brought forward was one which had also occurred to the speaker in connection with mercury. It is certainly a fact in the case of mercury that the virulence of the symptoms does not increase if you diminish the dose. Owing to the proximity of the hospital to Hatton Garden, the headquarters of the manufacture of thermometers, barometers, &c., they had very frequent opportunities of seeing mercurial poisoning, often in men who were not brought into actual contact with the mercury, and it had been shown over and over again by experi-

ment that the amount of mercury which volatilises in a workshop, although exceedingly small, is quite enough to produce mercurial poisoning. It is almost as striking as the emanation from radium. At the same time, there was no doubt, he thought, that the author had in his mind rather the case of insoluble drugs.

Dr. Jagielski thought the paper one of the most philosophical they had heard for a long time. This action of infinitesimals is shown by its results on patients who are either improved in their symptoms or entirely cured. All these effects are supposed to be produced by invisible vibrations, in the same way as, for example, wireless telegraphy might work, or thought reach a destination in harmony with itself.

Dr. C. E. Wheeler regretted he was not in the room when the paper was read, but from the discussion, there were one or two points he wished to speak on. A too ready use of terms which cannot be justified should be avoided, though he would not take quite such a retiring view with regard to theory as Dr. Goldsborough was inclined to adopt. Dr. Wheeler thought theory a useful road for further investigation. There was no doubt in his mind that the more recent physical discoveries and speculations must be taken account of. He felt bound to believe that the action of higher attenuations was physical, not chemical. It may very well be that generations of investigation would ultimately throw light upon the fundamental problems of life. What was wanted was more definite experiments of the laboratory kind and as distinct from the clinical and bedside experience. He thought work might be done with regard to the lower forms of life. The effect of arsenic 200 on a solution in which yeast is growing can be estimated, and that pointed in the direction in which experiments could be undertaken, and there might be found some definite kind of measure to test the action of the higher and lower attenuations. Differences in individuals are too profound to lay down actual rules about. What drugs to use in regard to a disease can generally be got to fairly narrow limits, and some day also it

may be said from such and such indications the patient requires such and such an attention—not always the highest.

Dr. Macnish thought the paper a very interesting one. His experience was that both high and low potencies were of great value. Where mental conditions were to be treated the higher attenuations should be given, superficial diseases demanded the use of the lower. In certain diseases one dose of the mother tincture gave a good result, and one or two doses only gave much better results than doses three times a day.

Dr. Stonham wished to correct a mistaken idea which he judged had arisen from Dr. Goldsbrough's speech. He did not wish to say that he thought the action of drugs was a chemical one. It cannot be supposed to be a chemical one when the dilution is at all high, and the higher dilutions have a great effect. The chemical factor must not be left out, however. In certain cases drugs are capable of combining with cells and producing certain results, and it must be supposed that the chemical action has something to do with it, as for example the case of *carbo vegetabilis*.

Dr. Compston, in reply, said that what made him say that drugs do not act chemically was this: Take belladonna as an example, a low potency man will give his dose of 1 x; a high potency man will give his 30 and get similar results. Now how can it be a chemical action in the latter case? And if it is not, why should it be so regarded in the former? To his mind, at any rate, although in the case of a big dose a chemical effect may result, the specific action of the drug, he considered, cannot be chemical.

In the diseased person for which arsenicum is suitable there is an already sympathetically related condition; in many a healthy person there is not a sympathetic condition. But can the attenuation act powerfully to restore where there is already a sympathetic relationship present?

With regard to what Dr. Goldsbrough said about the definition of "the life forces" and trying to adopt terms of physics in speaking thereof, it is almost impossible to talk about these

things without doing so. It is a matter of analogy. He tried to make it clear that he did not accept these as clearly defined terms, but as well-understood terms by which he could talk to his audience. For instance, "emanation," though used in a physical sense up to the present, might well explain how a physical agent, a drug, is able to act upon the life forces and thereby cure disease. Then about forces in matter being locked and unlocked. He was using terms used by present day scientists to explain the new wonders science has revealed. He wished his audience not to feel he was theorizing without anything to theorize on.—*The British Homœopathic Journal*, January, 1912.

EDITOR'S NOTES.

Tuberculin Tests.

Lawrason Brown (*Amer. Journ. of Med. Sciences*, October, 1911) discusses the specificity, danger, and accuracy of the tuberculin tests. Recent research tends to show that sensitiveness to these tests cannot be produced in healthy individuals, and a slight reaction to a small dose at any time during treatment is sufficient proof that the patient had had a tuberculous infection. Although accidents have followed the conjunctival test, it would appear to be comparatively safe when using only 1 per cent. and 5 per cent. solutions of the Old Tuberculin, provided that the patients are carefully selected to the exclusion of all those who have ever had the slightest eye troubles. Except in scrofulous children, the dangers of the cutaneous test from lymphangitis, etc., are so slight as not to warrant consideration, and it is of value in early life. With regard to the subcutaneous use of tuberculin, there can be no doubt that it is a specific test for the detection of tuberculous infection; and, although in some unsuitable cases the danger may be real, in the great majority it is slight. The appearance of tubercle bacilli in the sputum following a reaction has no connexion with the reaction itself, even if severe, and can only be regarded as a coincidence. Increased physical signs occur in about one-third of all cases, and in one-half of those showing increase of pulmonary symptoms, and these are independent of the appearance of tubercle bacilli in the sputum. Exposure to infection and characteristic signs (for example, hæmoptysis, pleuritic effusion, double dry pleurisy, or localized physical signs at one apex) are diagnostically of more importance in clinical tuberculosis than the data derived from tuberculin tests; and a positive reaction, when only doubtful symptoms of pulmonary tuberculosis are present, is of uncertain value, unless the pulmonary symptoms or signs are definitely increased during the reaction. Also a negative reaction is of uncertain value in the face of positive symptoms.—The *British Medical Journal*, November 25, 1911.

Gleanings from Contemporary Literature.

LEPROSY :

A NEW VIEW OF ITS BACTERIOLOGY AND TREATMENT.

Delivered at the London School of Tropical Medicine.

By T. S. B. WILLIAMS, CAPTAIN, I.M.S.

I am greatly indebted to Sir Patrick Manson for this opportunity of laying before you the results of investigations which I have been carrying out for some years into the bacteriology and treatment of leprosy.

Before proceeding to a description of my own results I should like to draw attention to the work of Major Rost, I.M.S., who is the pioneer of this work in India. Although doubt was thrown on his original work, published in 1904, I think that careful consideration of those results, especially in the light of Major Rost's more recent researches, and of that of other investigators, will give the impression that his early work was most important, and entitled to serious consideration. Personally, I am greatly indebted to Major Rost for the help which he has given me in connexion with my own research work.

The view which I wish to advance is that the lepra parasite is not an acid-fast bacillus belonging to the fission fungi, but that it is a very pleomorphic streptothrix, which, in addition to changes in form, exhibits marked changes in its staining reactions in regard to the quality known as "acid-fastness." This being the main point of my lecture, it will conduce to a clearer exposition of the subject if I may be allowed to refer very briefly to some of the principal features of the Streptotricheae. I would especially refer those interested in this group of organisms to the Milroy Lectures of 1910 by Mr. Foulerton of the Middlesex Hospital, which give a most interesting and clear account of this group of organisms, based on original researches extending over many years. The following description of the Streptotricheae is taken from those lectures :

The typical life-history of a streptothrix may be said to consist of :

1. Branching mycelium.
2. Isolated rod segments.
3. Spherical spores.

Development may be studied in one of the quickly growing saprophytic species. One starts with the spore ; from this two or three threads sprout and elongate, so that at an early stage of development one has a typical ray fungus consisting of three mycelial threads, usually of unequal length, and radiating out from the position occupied by the central spore. From these primary threads lateral branches in turn sprout out, and soon there is developed a densely tangled mass of mycelium representing the fully developed stage of the organism.

The next stage is transverse segmentation. The branching mycelium, which hitherto has been apparently homogeneous in structure through-

out its length, now presents transverse segments produced by an obvious process of degeneration extending across the mycelium.

Following this is a stage of fragmentation. The degenerated portions of mycelium disappear, and a conglomeration of separate rod segments represent the original system of branching mycelium. Generally speaking, these rods are morphologically identical with bacilli, except that here and there a rod with remains of a lateral branch attached to it may be seen.

With, or soon after, the occurrence of segmentation a special kind of spore formation may be observed. In a typical instance special spore-bearing organs are developed; fine aerial hyphae, which, erecting themselves from the growth of mycelium, often cause a powdery appearance on the surface. Spores are produced in these aerial hyphae. It seems probable, also, that under certain conditions these spores may be produced along the length of the mycelium, as well as in the special hyphae. From these spores fresh filaments grow out.

The bacteria or fission fungi are defined as unicellular organisms, which reproduce themselves by a process of transverse fission or spore formation. In the one case the parent cell produces two new cells by clean transverse fission; in the other case a single endogenous spore is produced, so that a single cell succeeds a single cell.

In the hyphomycetes, or mould fungi, we have a more complex kind of organism, in which sporulation is a function of specialized spore-bearing organs of various types, the simplest, perhaps, of which is represented by the aerial hyphae of the *Streptotrichae*.

The stage of full development of the streptothrix is represented by a system of branching homogeneous mycelium. . . . As to the nature of what have been described as the spherical spores, there can be no doubt, and it is probable that the rod segments also have to be considered as being in a sense spore bodies; that is to say, it is probable that these rod segments represent a more resistant form which is capable of producing a new mycelium directly, and by means of which, in case of disease, the infection commonly is transported from one part of the body of the host to another. The fully developed mycelium obviously, because of its bulk, would not pass easily from one part to another, except by steady invasion along continuous tissues; and there are reasons for believing that, when living as a parasite, under many of the conditions applying in case of disease, a streptothrix does not readily undergo complete sporulation, with the development of spherical spores. But, under parasitic conditions segmentation and fragmentation of the mycelium occur freely; isolated rod segments will be carried from part to part readily enough, and by the examination of sections through recently established secondary foci of infection, it has been found possible to obtain evidence microscopically of the early sprouting of branching mycelium directly from rod segments, and not from spherical spores.

The history of the Streptotricheae is further complicated by the fact that there is strong evidence that, under parasitic conditions of existence, the rod segments may be capable of reproducing themselves directly as rod segments, and thus simulating true bacilli.

It will be realized, then, how very complicated is the life-history of this group of organism, and one may be led into many errors unless one keeps these facts constantly in mind.

1. BACTERIOLOGICAL WORK.

I have been engaged on a study of this question for several years. Prior to 1908 I had accepted the ordinary teaching that leprosy was due to an acid-fast bacillus belonging to the fission fungi. I had been getting results which, although considered useless at the moment, were producing an effect on my mind, and about the end of 1908 I became imbued with strong impressions regarding the morphology of the lepra organism. From a survey of my own results, together with a consideration of the work of Rost and Deycke, I became of opinion that leprosy was most probably caused by some species of streptothrix, and that the acid-fast bacillary masses, which were so well known, were merely phases of such a streptothrix, and that, moreover, they represented a resting and resistant stage of the organism. Since the beginning of 1909 I have grown from lepers in Persia and India apparently different organisms, which, in my own opinion, and in that also of others who have seen my work, I have been able to connect up into one organism—namely, the *Streptothrix leproides*. I have grown the following phases of the organism :

- (a) A non-acid-fast streptothrix in the mycelial stage, and producing acid-fast rods.
- (b) A non-acid-fast diphtheroid bacillus, producing also acid-fast rods. This is really a streptothrix.
- (c) An acid-fast bacillus, which is but the broken down stage of a streptothrix, and,
- (d) An acid-fast mycelium.

Illustrations in colours of these micro-organisms may be seen in the number of the *Indian Medical Gazette* for May, 1911.

A. *The Non-acid-fast Streptothrix in the Mycelial Stage.*

This has been grown by me several times in ordinary broth media and potato broth. From two cases I have grown (a) in ordinary media this mycelial form, and (b) in my imitation of Rost's medium and thence on to solid media the non-acid-fast diphtheroid form. Further, by subculturing the latter into ordinary media. I have changed it into the non-acid-fast mycelial form incubated at room temperature this non-acid-fast mycelial form appeared in eight weeks. Incubated at 37° C. growth was visible in ten days. In the first cultures, nests of acid-fast bacilli were present lying in the meshes of the mycelium. These diminished in number on subculture, and after the third subculture they were not found.

If grown on the surface of milk at 37° C, it appears in ten to fourteen

days as a definite membrane which varies in colour according to the medium from which subculture was made.

If subcultured from potato broth the colour of the membrane was orange yellow, as compared with the orange red of Deycke's organism. After about four weeks' growth some portions of it become very strongly acid-fast, and after six to eight weeks it breaks down into rods, which may be acid-fast or non-acid-fast. If injected into lepers in its non-acid-fast phase it produced no effect, whereas when a considerable amount of it had become acid-fast, then injection caused considerable reaction in lepers, producing both general effects and local manifestation in the leprous lesions. Control injections on apparently healthy individuals pointed to the specific nature of the reaction.

B. *The Non-acid-fast Diphtheroid Bacillus Phase.*

For this series of experiments I used either Major Rost's original medium, or an imitation prepared for me at Parel. The medium prepared at Parel was as follows :

(a) Lemco broth without addition of salt or			
peptone	...	...	250 c.cm.
(b) Distilled water	..	...	350 c.cm.
(c) Milk	...	...	50 c.cm.

In Major Rost's original medium, instead of 250 c.cm. distilled water, he added 250 c.cm. of a distillate obtained by blowing steam over rotten fish. This fluid contains amine bodies, and in view of other results tending to show that end products of digestion such as the amino acids may have some influence on one phase of the organism, I am inclined to lay much more stress than formerly on this distillate as an important constituent of the medium.

Using this medium, then, more especially my imitation, I have now on numerous occasions succeeded in growing a non-acid-fast diphtheroid organism from cases of leprosy.

All inoculations were made from non-ulcerated lepromate, and were controlled by ordinary media. The tubes were incubated at 37° C. After seven days, roughly, a very small flocculent membrane could be made out at the bottom of the tubes. This was seen to consist of masses of lepra bacilli lying in a zoogloea substance. Extended observation showed that the basis of the membrane was a streptothrix varying as to its acid-fastness. Morphologically, then, we had at this period a mycelium producing acid-fast nests, and it is quite comparable to the similar mycelium which I have already described as having been grown in ordinary media. This membrane never became large, and, as the medium is very opaque, it could only be seen with difficulty and in certain lights. From this stage matters seemed to remain dormant for a long period. At last, after two and a half to three months' incubation, it was noticed that in some tubes non-acid-fast organism commenced to appear among the acid-fast. These were identical with the lepra bacilli morphologically, but differed in being non-acid-fast. This form appeared too frequently

to be considered as an accidental contamination, and when growth was obtained on solid media we were confirmed in this view. It was only with great difficulty that I obtained a growth of this phase on solid media. I used for this purpose tubes of lemcoglucose-agar, without salt or peptone, and inoculated them from tubes of Rost's medium, showing a good growth. They were incubated at 37° C. After eight to ten days' incubation, it was thought that there was a suspicion of growth. This was subcultured, and eventually a very delicate growth was obtained. The single colony is small, dense in the centre, and has a wavy irregular margin. Microscopically, these growths consisted at first of acid-fast and non-acid-fast bacilli similar to those in the Rost's medium tubes from which subculture was made. As subculture succeeded subculture the acid-fasts gradually died out, and eventually a typical growth consisted of non-acid-fast bacilli. I found it difficult to convince people that this was the lepra organism in a non-acid-fast phase. Eventually, through the kindness of Major Glen Liston, I.M.S., who supplied me with amoebae, I was able to produce a strong argument to back my statements. It was found that if this non-acid-fast diphtheroid organism were mixed with amoebae, then, at the end of about forty-eight hours, the amoebae were full of acid-fast organisms. The amoebae further had a distinct influence on the organisms which had not been ingested. Some were entirely acid-fast, and in others the dots had become acid-fast. Also, in two to three months' old pure cultures of this non-acid-fast bacillus, the dotted bacilli tended to die out, while the so-called involution forms became more numerous and in many cases distinctly acid-fast. There is no difficulty in making out forms which show that this non-acid-fast bacillus is in reality a streptothrix.

C. *An Acid-fast Bacillus Phase, which is the Brokendown Stage of a Streptothrix.*

This I have grown from the non-acid-fast diphtheroid bacillus phase just referred to. This growth was obtained on several occasions by taking tubes of Rost's medium, in which there was a good growth of the acid-fast and non-acid-fast bacilli, and continuing to subculture them into Rost's medium instead of on to solid media. A time was reached when the balance between the acid-fasts and non-acid-fasts seemed to be settling in favour of the acid-fasts. The proportion of acid-fasts was for some time noted to be increasing in relation to the non-acid-fasts, and eventually I obtained a strong yellow coherent growth in the bottom of the tubes. This growth was strongly acid-fast, but by careful study the stages from the non-acid-fast diphtheroid to the acid-fast stage could be made out. At first one saw microscopically acid-fast cocci and coccobacilli. Extended observation has shown that these are merely broken-down phases of an acid-fast streptothrix. This phase now grows well on solid media, and it is very similar to one of Rost's varieties in its acid-fastness, its pleomorphism, its yellow colour on solid media, and in its power of producing severe reaction in leper patients.

Generally it grows as a yellow sticky growth. It may, however, grow also as a yellow wrinkled membrane. This variation is also shown by Rost's organism.

D. *The Acid-fast Mycelial Stage.*

. This phase I have produced from the non-acid-fast mycelium, and in conjunction with Major Liston I have grown it directly from a leper. This latter case was particularly interesting, as we found a streptothrix in the leper's spleen we made our inoculations. The streptothrix was lying in a blood space, and it could be seen penetrating into the pulp and ramifying amongst the masses of lepra bacilli lying in the pulp. The whole spleen was sectioned, but the streptothrix form was certainly confined to one small piece of splenic tissue. In this case growth was obtained on Dorset's egg medium. This streptothrix was extremely interesting, as it passed through respectively all the phases which I am describing. In original culture it was an acid-fast mycelium, rapidly losing its acid-fastness and breaking up into acid-fast and non-acid fast bacilli. In subculture on ordinary agar it became a purely non-acid-fast bacillus. By putting it back into Rost's original medium it again became a beautiful acid-fast filamentous streptothrix.

Such, then, are the various organisms which I have cultivated, and at first sight it may seem difficult to believe that they are really but phase of the same organism, namely, the streptothrix of leprosy. If, however, the varied structure possible in a streptothrix be recalled, it will be admitted that it is quite possible for all these apparently different organisms to be but different phases of the same organism. The manner in which I have cultivated the different forms from the same cases of leprosy, and then again have changed the forms in subculture, leaves no doubt in my mind that they are but phases of one organism, whatever may be the opinion as to the relationship of that organism to leprosy.

Regarding pigment formation in these growths I should like to say that pigment formation varies so much, even in the same streptothrix, when the conditions are slightly altered, as to make colour of the growth of practically no value in differentiating between these organisms.

Animal Experiments.

My animal experiments have been made with the organism in its acid-fast bacillary form. In this form, when injected subcutaneously into guinea-pigs in large doses, I have produced lesions somewhat resembling leprosy, with large numbers of cocco-bacilli appearing in the connective tissue cells. Moreover, Major Rost, with his organism, has produced all the clinical features of tubercular leprosy in a monkey, and in the nodules acid-fast bacilli were found, situated as in leprosy. I made a few experiments with the organism in its non-acid-fast mycelial form, but in view of the results obtained by Kedrowsky, I see that I did not allow anything like sufficient time for these experiments.

II. COMPARISON OF MY BACTERIOLOGICAL RESULTS WITH THOSE OBTAINED BY OTHER WORKERS.

I think we may take it that, with the exception of this school, the general teaching as to the causation of leprosy is still the textbook view—that is, that it is due to an acid-fast bacillus belonging to the fission fungi. Because we find the lepra organism parasitically as an acid-fast bacillus, it is not necessarily fission fungus. A study of the treptotricheae will show that while a disease may be caused by a streptothrix, yet the obvious parasitic form found may be a bacillus or some other broken down form. The following extract from a paper by Unna, read at the Bombay Medical Congress, 1909, is extremely interesting in connexion with the foregoing. He says:

As a matter of fact the leprosy organism includes a large and varied series of forms, which not only included the known bacilli and globi, but also others different in morphology and staining reactions and transitional forms, which are inseparable from the growth of the leprosy bacilli in the skin. I will not enter further into the peculiar morphological shapes, coccus-like granules and granular threads (coccothrix), which were found in my laboratory by Lutz and studied more closely by me and my pupil Speugel.

Also it is important to note that there is definite evidence by Herrman and Unna to the effect that the lepra bacilli themselves are not always acid-fast. In the article on Leprosy in Allbutt and Rolleston's *System of Medicine* Dr. Abraham says:

Herrman has also shown that in young or recent nodules similar masses of bacilli exist, which do not retain the red stain after immersion in weak acid, but are easily subsequently coloured with methylene blue. If, as he supposes, it is only the older (fuchsin-stained) bacilli that are resistant to the acid treatment, we may have some explanation of the general failure to recognize leprosy bacilli in the attempted cultivations.

I will now take the organism in its varying phases, and see how the work of others fits in:

1. *Non-acid-fast Streptothrix in Mycelial Formation, capable of being Converted into an Acid-fast Streptothrix.*

I have grown this several times under conditions which, in my opinion, point to its being merely a phase of the *Streptothrix leproides*. It varies between being non-acid-fast and acid-fast. Similar organisms have been grown by Kedrowsky, Deycke, and Bayon. Kedrowski's results are extremely interesting. He describes the growth of cultures showing long branching filaments, like those of a streptothrix, with also short bacillary forms. They varied between being non-acid-fast and acid-fast. He notes that the non-acid-fast become acid-fast on inoculation into animals. By inoculation his streptothrix into rabbits he produced very suggestive lesions. Lesions were produced containing acid-fast bacilli very like those of leprosy. From these lesions he cultivated organisms which were similar in morphology to the bacillary forms found in the tissues

but which differed in their reaction to Ziehl-Neelsen staining. All variations were seen, from acid-fastness to non-acid-fastness. In subcultures of these organisms definite branching was observed. He concludes by saying that he thinks the lepra parasite belongs to the Streptotrichaceae rather than to the bacilli.

2. *Non-acid-fast Diphtheroid Bacillus.*

As stated previously, I have grown this many times. I have demonstrated definitely that it is capable of becoming acid-fast. I have grown it into a non-acid-fast mycelial form and into an acid-fast bacillary form. In my opinion this is at present the most interesting phase of the organism, and the one through which the largest amount of connexion can be shown between my work and that of other investigators.

If we turn to the literature of the subject we find that many workers, whose technique is beyond question, although they have failed to grow an acid-fast bacillus, have all described the growth of a non-acid-fast diphtheroid organism. Amongst those describing the growth of such an organism are Babes, Levy, Czapski, Sprink, Kedrowsky, Shiga, Rost, Bannerman, and Bayou. The last named has done some most important work on this subject, and his animal experiments with his diphtheroid organism should go far to convince the most sceptical as to the fact of there being more phases of the lepra organism than the acid fast bacillus of the textbooks. Furthermore, Shiga describes also the presence of acid-fast bacilli among the non-acid-fast bacilli, and he proved it to be a pure culture. Agglutination tests by Shiga and Babes agree with my own, that is, that the organism is distinctly agglutinated by leprosy and healthy serums, but in about the same degree.

Babes has grown this diphtheroid many times, and according to the last reference to this work with which I am acquainted, he considered that although it was probably the lepra bacillus, yet it could not be considered seriously unless—

1. It could be grown into the acid-fast state ;
2. It could produce a tuberculin like reaction in lepers ; and
3. It could produce leprosy in animals.

These conditions have now been realized. It is true that it only produces a "tuberculin-like" reaction in its acid-fast state ; but that is immaterial to the argument. The animal experiments of Kedrowsky, Rost, and Bayou are very definite, and leave very little room for doubt as to the connexion of these various phases to the disease.

3. *The Acid-fast Streptothrix.*

As already pointed out, this may occur as a mycelium, or in broken down form as a bacillus.

In its *mycelial* form it has been grown by Deycke, by myself separately, and in conjunction with Major Glen Liston, I.M.S.

In its *bacillary* form it has been grown by Rost, Clegg Duval, Bayou, and myself.

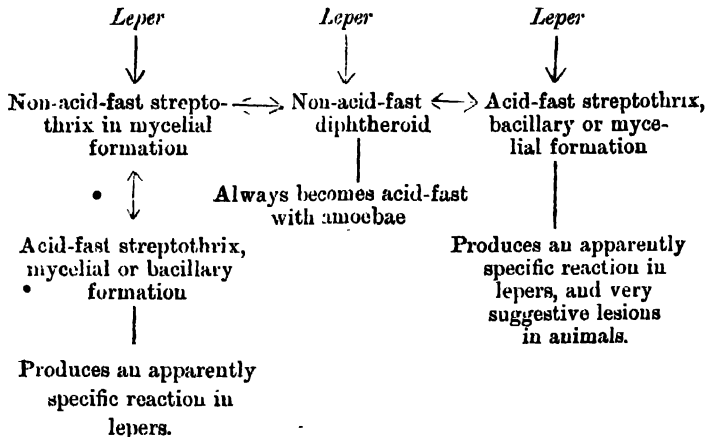
A typical tuberculin-like reaction has been described for this acid-fast phase by Rost, Deycke, Clegg, and myself.

A further point of interest is the fact that Rost and Deycke published their original papers about the same time, that is, Rost in 1904, and Deycke in 1905. If their papers are read carefully, and their clinical results compared, the similarity is striking.

I think, then, that Rost and Deycke both grew the organism in 1904 and 1905 respectively. Rost produced it in bacillary form, and Deycke in mycelial form. While Rost definitely claimed his organism as the leprosy bacillus, Deycke, in later papers, expressed the opinion that his streptothrix had no relationship to the leprosy bacillus.

In my opinion Major Rost is entitled to the credit of being the first to introduce a successful specific treatment for this disease, and that as far back as 1904.

So much for the organism in its individual phases. The accompanying chart illustrates the various phases of the leprosy streptothrix as they have been grown by me, and it will be seen that the work of many investigators fits into that chart. The arrows indicate that the organism towards which the arrowhead points has been grown from the leper or organism at the opposite end of the arrow. It will be noticed that in some cases the arrows are pointed at each end, indicating that the phases at each end of the arrow have been converted one into the other.



Shortly, it will be seen that the three phases—

1. Non-acid-fast mycelium,
2. Non-acid-fast diphtheroid organism,
3. Acid-fast streptothrix(bacillary or mycelial)—

have been grown separately from lepers. Then it will be seen that the non-acid-fast diphtheroid has been grown into an acid-fast phase and into a non acid-fast mycelium, which latter itself was further changed into an acid-fast mycelium.

I think that with this short explanation, in view of what I have already said, the chart will be understood.

III. THE APPLICATION OF THE BACTERIOLOGICAL RESULTS TO THE TREATMENT OF LEPER PATIENTS.

The first thing I set out to determine was whether the streptothrix, used as a vaccine, could produce any reaction, of the nature of a tuberculin reaction, and, if so, to control it by similar doses of vaccine given to apparently healthy people.

It was found that the streptothrix, in its non-acid-fast form, whether mycelial or bacillary did not produce any reaction; when, however, the organism was used in its acid-fast state a very definite reaction was produced. The reaction in typical cases was manifested by general symptoms such as fever, malaise, etc., and by distinct reaction in the lesions. In the *Indian Medical Gazette* for May, 1911, temperature charts showing typical leprolin reactions are given, and also twelve charts of apparently healthy individuals, who received large and frequent doses of the vaccine. It will be seen that, whereas in lepers a definite temperature reaction was produced, the injection in the apparently healthy persons produced no appreciable effect.

The reaction in lepers varies wide limits. It may be very slight or it may be so severe as to endanger life. With the general symptoms of reaction, the local manifestations in the leprous lesions also vary, from a slight feeling of itching and heat in the nodules, to acute inflammation, with suppuration. Similar reactions are described by Rost, Deycke, and Clegg for their organisms.

Having obtained such results, which seemed to point to the specific nature of the organism, I proceeded to examine its therapeutic possibilities. At this point I may mention that, quite apart from the work forming the subject of this lecture, I have had considerable experience in the treatment of this disease, both with the older remedies and with the nastin treatment of Professor Deycke. During the last three years I have treated over sixty cases, for lengthy periods, by means of the nastin method, and I should like you to know that our latest results have been contrasted with those obtainable by other methods of treatment.

Prolonged investigation has shown that it is possible, with a vaccine made from the acid-fast phase of the organism, to influence the disease materially, and to cause, in many cases, marked retrogression, and even complete disappearance of the outward signs of the disease. These results confirm those obtained by Major Rost, with a vaccine made from his organism.

It is not possible here to give you much detailed information regarding the clinical results already obtained, but improvement has been observed in both nodular and anaesthetic cases.

These beneficial results have been obtained so definitely in relation to treatment, and in so many cases, that there is no question of their being accidental or due to spontaneous cure. There is no doubt that the vaccine

can exercise beneficial effects on the disease, even up to complete disappearance of the clinical signs, and I have now had a few cases sufficiently long under observation to justify me in venturing the opinion that by means of vaccine methods we can prevent further exacerbations of the disease.

At present I recommend (except in very early cases) that the vaccine treatment should be adopted mainly with the idea of preventing further progress of the disease.

It is obvious that where massive lesions have been formed during several years we cannot expect very rapid improvement. In early cases, however, I think that, by a combination of vaccine therapy with surgical methods, we can cause a total disappearance of the symptoms, and, if my hopes as to the immunizing power of the vaccine are justified, we shall be able in such cases, by judicious use of the vaccine, to prevent fresh exacerbations of the disease.

I do not think it is wise at present to lay much stress on the possibility of "cure." The moment we introduce the word "cure" we are liable to be led on to various side-issues, discussion of which would tend to obscure the value of the actual results at present attainable.

However good may be the clinical results achieved in any individual case by vaccine treatment, I think it is probable that there must remain for a very long time a number of lepra bacilli capable of producing a recrudescence of the symptoms if the state of immunity be not kept up by the use of the vaccine. I draw attention to this now in order to ask medical men using the vaccine method of treatment not to be satisfied so long as they are getting clinical improvement, and not to despair if they cannot get rid entirely of the "acid-fast bacillus."

Those who may use the vaccine will find that its effects seem to vary a good deal. The vaccine must not be used in any "rule of thumb" manner, but the patient and his lesions must also be considered. For instance, in a case with very definite localized tubercles it will be found by cupping that the tubercle has a very defective blood supply. It remains pallid in the midst of its engorged surroundings.

Obviously, in such a patient, the blood may be strengthened against the lepra parasite, but as the blood cannot get at the lesions the results will be poor. In such cases I have used cupping with marked benefit.

From this stage with very defective blood supply all grades of lesions may be met with up to the diffused infiltrations where the blood supply is little, if at all, interfered with. The nearer to a good blood supply, the better will be the results. The best reactions and clinical improvement will be obtained in patients in whom the lesions are "juicy." As far as my experience goes, the more "juicy" the lesions, the more definite the reaction and subsequent improvement. The old sclerosed cases may be with difficulty affected.

The vaccine is now being made at the Bombay Bacteriological Laboratory, Parel, Bombay. The dose recommended at present for routine use

is about 1 c.cm. I use doses varying 1 to 5 c.cm., but with the higher doses, in certain juicy cases, very dangerous and even fatal reactions may occur.

Briefly, then, these are the results which I have obtained, and I think that when the results are compared with those of other investigators, a case is made out for a revision of the generally accepted views as to the bacteriology and treatment of this disease.

If these views become generally accepted, then it is obvious that we must examine anew all the clinical manifestations of the disease, to determine the part played in them by the differing phases of the streptothrix. Further, when the various suggested modes of transmission of the disease are examined from this new point of view, it is possible that more tangible results will be achieved in the elucidation of this very interesting and important problem.—The *British Medical Journal*, December, 16, 1911.

PROVERBIAL MEDICINE IN DISPRAISE OF
THE DOCTOR.

It has been said that "every word is but a condensed fragment of history, on whose abraded surface is still legible the handwriting of countless generations of mind"; if this be so (and indeed it is), then surely every proverb is nothing less than a precious stone of experience which has been laboriously cut and polished until every facet of it flashes forth the bright light of wisdom. To take the less fanciful definition of the dictionary, "a proverb is a short, pithy saying in common and recognized use; a concise sentence, often metaphorical or alliterative in form, which is held to express some truth ascertained by experience or observation and familiar to all; an adage, a wise saw."

South said, about two centuries ago. "What is a proverb but the experience and observation of several ages gathered and summed up into one expression?" And Howell gave it as his opinion that "proverbs may not improperly be called the philosophy of the common people"; whilst a literary man nearer our own time has called them the "ready money of human experience"; and the epigraph of J. K. Arthur's *Banquet of Brevities* reads, "What flowers are to gardens, spices to food, gems to a garment, and stars to heaven, such are proverbs interwoven in speech." With these notions of the nature and origin of proverbs in mind, let us turn, not without some profit, to the consideration of proverbial medicine; and let us look first, although it may fret our professional pride, at the popular sayings which are more or less derogatory to the doctor.

Why there are so many proverbs which reflect not in the kindest way upon the medical man is not at first sight apparent. Perhaps it was the number of these derogatory adages that led Sir Thomas Browne, the physician, to warn his readers that "although proverbs be popular principles yet is not all true that is proverbial"; and there is even a proverb which may be invoked for the doctor's comfort, which says "Solomon made a Book of Proverbs, but a book of proverbs never made a Solomon." But they are certainly numerous whatever we may believe regarding their truth.

The suggestion may be hazarded that the patient is during his illness in a position as regards the doctor which is somewhat humiliating; he feels he is not appearing at his best, or even at his second best; his medical attendant is seeing him as he really is, and to him he is as the hero to his valet, in no way heroic; he is very grateful at the time for the relief his physician or his surgeon brings him, and during convalescence his thankfulness continues in a less pronounced form; but when he is again strong, robust, and going about his business, he looks back with distaste upon the days of his indisposition, and is very ready to forget all about it and about the people who had to do with him then; he may even cherish the thought that he might have been well sooner had it not been for the weakening medicine he received or the

fussy interference of an over-anxious doctor. Or he may have other thoughts of a similar kind which put him in a position of mild antagonism to the medical man, and make him very willing to hear sarcastic and humorous or sarcastic and nonhumorous sayings about the profession in general, and his own attendant in particular. On the other hand, the doctors may have done something by their airs and conceit, or by their gaucherie and bullying, to build up for themselves the character which is reflected in certain of the proverbial expressions in common use. But these are at the best indecisive surmises which may be passed from in order that the proverbs themselves may be considered.

There is, to begin with that very old saying *ubi tres medici duo athei*, to which Sir Thomas Browne has given the name of "the general scandal of my profession." This proverb (where there are three doctors there are two atheists) is classed as a mediæval saying; and no doubt it is very old, although who first used it may be difficult of discovery. Chaucer had the same idea in his mind perhaps when he reported of his "Doctour of Phisik" that "his studie was but little on the bible." It is probable that it was first levelled at the physicians, not so much because they were medical men as because they belonged to one of the learned professions; it reflects rather upon the way in which the possession of knowledge, especially of natural philosophy, was looked on in the Middle Ages, and even in much later times. Napier of Merchiston, the inventor of logarithms, was suspected of sorcery; in the tenth age Pope Silverster the Second passed for a magician, because he understood geometry and natural philosophy." Lord Bacon, in his *Essays* (Of Atheism) admitted the danger: "it is true that a little philosophy inclineth man's mind to atheism; but depth in philosophy bringeth men's minds about to religion; for while the mind of man looketh upon second causes scattered it may sometimes rest in them, and go no farther; but when it beholdeth the chain of them confederate and linked together it must needs fly to Providence and Deity." Sir Thomas Browne also allowed that the "bad construction and perverse comment on these second causes, or visible hands of God, have perverted the devotion of many unto atheism; who, forgetting the honest advises of faith, have listened unto the conspiracy of passion and reason," but he was not hopeless, for was there not that "mystical philosophy, from whence no true scholar becomes an atheist, but from the visible effects of nature grows up a real divine," and in one of his commonplace books he is discovered stating that "though in point of devotion and piety, physicians do meet with common obloquy, yet in the Roman calendar we find no less than twenty-nine saints and martyrs of that profession." Two hundred and fifty years have gone by since Sir Thomas Browne was writing his *Religio Medici*, and, curiously enough, was earning from some the reputation (as Dr. Johnson tells us) of being either an atheist or a deist; yet it may be hazarded that "the unification of the highest religion and philosophy with the progressive science of the day" has

not come to pass. Many medical men probably will still be ready to say, with Sir Thomas Browne, that "there are, as in philosophy, so in divinity, sturdy doubts and boisterous, objections wherewith the unhappiness of our knowledge too nearly acquainteth us," doubts and objections, which, continued the Knight-Physician of Norwich, "I confess I conquered, not in a martial posture but on my knees."

There is a group of proverbs whose general meaning is that even when the disease is overcome and the patient recovers the doctor has had very little to do with the happy result and deserves no credit for it. Thus, it is said *medicus curat, natura sanat* (the physician cures, Nature makes well), and it cannot be denied that at any rate the doctor's most valuable ally is the *vis medicatrix Naturae*, which so often works wonders in apparently hopeless cases. But there is a tincture of bitterness in the proverb which appears in several languages to the effect that *God heals, and the physician hath the thanks*: in German it is *Gott macht gesund und der Doctor kriegt das Geld*; in Spanish it is *El medico lleva la plata, pero Dios es que sana* (the physician takes the fee, but God sends the cure). and in Italian, *Dia guarisce, e il medico e ringraziato*. Howell gives this adage as "Though God heals, yet the physician carries away the fees"; and there is another which appears in two forms and is similar to it—namely, "The physician owes all to the patient, but the patient owes nothing to him but a little money"; or, "The physician owes all to the disease, and the disease nothing to the physician." Now physicians must admit that there is a grain of truth in these proverbs in so far as the fact of recovery from sickness is concerned, and they ought therefore to make it their constant aim to minimize the financial side of their relationship to their patients. By so doing they will deserve what Ruskin said of them as a profession: "They [doctors] like fees, no doubt—ought to like them; yet if they are brave and well-educated, the entire object of their lives is not fees. They, on the whole, desire to cure the sick; and—if they are good doctors and the choice were fairly put to them—would rather cure their patient and lose their fee than kill him and get it. And so with all other brave and rightly trained men: their work is first, their fee second—very important always, but still second."

Then there is a group of proverbs which crystallizes the floating truth that other things than medicine and surgery are efficacious in warding off disease and curing illness. "Diet cures more than the lancet" is one of these sayings, and "Better pay the butcher than the doctor" is another; the former has its Spanish representative—*Mas cura la dieta que la lanceta*. Another proverb asserts with boisterous assurance that "Joy, temperance, and repose slam the door on the doctor's nose;" or, as it is in German, *Frohsinn, Mässigkeit, und Ruh Schliessen dem Arzt die Thüre zu*. Yet another gives the advice to "Use three physicians' skill—first Dr. Quiet, then Dr. Merriman and Dr. Diet." The last-named rhyme was not perhaps directed primarily against the doctors, for it

is said to be a translation of a maxim of the great medical school of the Middle Ages, Salerno. In the original Latin, too, it is not so derogatory to the physician, reading, as it does, "*Si tibi deficient medici, medici tibi fiant Haec tria, mens hilaris, requies, moderata diæta*" (If doctors fail you, let these three be your doctors : a cheerful mind, rest, and moderate diet.) Whether or not these proverbs be aimed at the doctor, he may well keep them in mind and sharpen his memory with the Scots adage, "Eat and drink measurely and defy the mediciners," which appears in English dress as "Feed sparingly and defy the physician."

There are, however, pieces of proverbial wisdom which go further in depreciation of the medical man than any that have yet been looked at. There is one which announces that there is "more danger from the physician than from the disease" (*Plus a medico quam a morbo periculi*) ; and there is another, strikingly reminiscent of the well-known lies regarding Scylla and Charybdis, which says, "*Si morbum fugiens incidis in medicos*" (in fleeing from the disease you fall into the doctors' hands.) From these dangers one is easily led on to deplorable consequences : a French proverb has it, *Les médecins et maréchaux occient maints hommes et chevaux* (doctors and farriers kill many men and horses) ; Ned Ward, in the *World Bewitched*, wrote, "Physicians kill more than ever they can cure ;" an outspoken epitaph says betterly, "the visits of many physicians have killed me (.....) and Montaigne, in one of his best essays, deals some heavy blows at the medical profession, telling of a Lacedæmonian, who, when asked what had made him live so long, made answer, "the ignorance of physic," and of the Emperor Adrian, who continually exclaimed, as he was dying, that "the crowd of physicians had killed him." Montaigne, being in the vein, goes on to mention others. A bad wrestler turned physician : "Courage," says Diogenes to him ; "thou hast done well, for now thou wilt throw those who have formerly thrown thee." A physician, boasting to Nicocles that his art was of great authority : "It is so, indeed," said Nicocles, "that can with impunity kill so many people." Nicocles's remark brings to mind the proverb, "Leeches (that is, physicians) kill with license," and that other, in Latin, "*Pessimus morbus est medicus*." As one reads over and meditates upon these old sayings one can hardly help thinking of the language used regarding the Jewish physicians of the first century and their modes of treatment in St. Mark's Gospel (chap. v, verses 25-34), where it is written of the woman with the issue of blood that she had suffered many things of many physicians, and had spent all that she had, and was nothing bettered, but rather grew worse ; the story is told also in the other two synoptic gospels, and although the language there used is not so derogatory to the medical art of the day, even Luke, himself a physician, admitted that she had spent all her living upon physicians, neither could be healed of any (Luke, chap. viii, verse 43). There can be no doubt that Mark's phrase is now often used with almost proverbic force.

There is an aspect of medical practice which has specially appealed to the proverb-makers ; it is the picture of the physician suffering himself from one of the diseases he professes to cure or prevent. There is a Greek saying, a fragment of Euripides, which refers with unpleasant realism to "the physician of others who himself abounds in ulcers" ; in its Latin form the phrase reads, *Aliorum medicus ipse ulceribus scates*. Truly there is something grotesque in the idea of a bald-headed dermatologist attempting to cure a patient of premature alopecia ; and the story of the lady doctor who was unable to go to the help of one who was having a baby because she was having one herself, always brings a smile. It is this paradoxical element in medicine which gave origin to the proverb, well known in many languages, and uttered by the lips of Jesus Christ, as reported by Luke the physician (chap. iv, versè 23) "physician, heal thyself." The Vulgate renders it *Medice, cura teipsum* ; in French it is *Médecin, guéris-toi toi-même* ; in Italian, *Medico, cura te stesso* ; in Spanish, *Médico, cûrate á ti-mismo* ; and in German it appears as *Artz, hilf dir selber*. Dean Plumptre states that this proverb was originally Jewish, but it may have been Arabic ; there is said to be no trace of it in the classic Greek writings. It is, perhaps, the shortest of all the proverbs which concern themselves with medical men, and the most unanswerable. All men are mortal, and the physician is but a man ; disease strikes down all sorts of people and does not spare the doctor. Shakespeare has the idea : When Cornelius, a physician, tells Cymbeline that the queen is dead, the latter says, "Who worse than a physician would this report become ? But I consider, by medicine life may be prolong'd, yet death will seize the doctor too." Indeed, the very fact that the doctor knows so much about disease handicaps him in his effort to form a correct diagnosis of his own malady, and his prognosis is generally very far out. A medical student, in his fourth year, was attacked with small-pox ; he informed his physician that he was certain he had spinal meningitis, and regarded himself as doomed, but he added that he was rather puzzled to account for the curious rash which had come out on his face ; he had allowed his mind to be filled with one symptom (the pain in the back), and had neglected all the others. Facts such as this underlie the proverbs, "Doctors make the very worst patients," and "Doctors never dose themselves or their families ;" although it may be maintained that it is not distrust of their own powers so much as disbelief in drugs that deters them. Howell, however, puts it quite clearly in the following form : "Though physicians know themselves never so well, and the constitution of their bodies, yet when they are sick they commonly take their receipts by prescriptions of others, being distrustful of themselves."

In addition to theoretical and practical knowledge of disease in others, the medical man requires experience in his own person, and that, of course, he cannot always have, in order to equip him fully for dealing with others and himself. A proverb expresses this truth in the words,

"No man is a good physician who has never been sick." This is hardly to be included in the list of derogatory sayings, but it emphasizes the fact that personal experience of suffering gives a greater power of sympathy and makes a man readier to anticipate and better qualified to mitigate the sufferings of others. There may, perhaps, be a modern proverb in the making that no surgeon is a good operator until he has been operated upon.

Voltaire's witty saying has often been quoted, "A physician is a man who pours drugs, of which he knows little, into a body of which he knows less." Mr. Justice Stephen brought it forth at the trial of Florence Maybrick in 1889, adding to it another derogatory adage, "All doctors are fools" with the complementary (not complimentary) phrase, "and all lawyers rogues." The latter proverb is not the only one in which law and medicine are pilloried together, for there is the saying, "An old physician and a young lawyer," and there is that other, "The clergy live by our sins, the medical faculty by our diseases, and the law gentry by our misfortunes." The adage, "Few physicians live well, few lawyers die well," is somewhat ambiguous, but seems more merciful to the former than to the latter.

The well-known fact that age brings to each one a knowledge of his or her constitution and proneness to disease is presented in the proverb that "Every man at forty is a fool or a physician." This is a very interesting saying, and it has been traced back to the Roman Emperor Tiberius, who died at the age of 77, after having enjoyed the best of health. Suetonius writes of him, "He enjoyed a good state of health, without interruption during almost the whole period of his rule; though, from the thirtieth year of his age he treated it himself according to his own discretion, without any medical assistance;" and Plutarch in his *De Sanitate tuenda* reported that Tiberius used to say that "That man was ridiculous who, after sixty years, appealed to a physician." There is a difference of thirty years in the two statements referred to above, but that of Suetonius would seem to be nearer the truth, for Tacitus in his *Annals* affirms that Tiberius "was wont to ridicule the physician's art, and those who, after the age of 30, needed to be informed by any one else what benefited or injured their constitutions." It is probable, therefore, that the correct version of the proverb is that "Every man is either a fool or a physician after 30," although the Scots form of it (as given by Ray) has the advantage of alliteration—namely, "A fool or a physician at 40." There is truth in the saying, for advance in years certainly brings with it knowledge of the weakness of one's constitution and an amount of acquaintance with ordinary remedies and precautions; but in Tiberius's case, at any rate, his self-acquired medical skill was not conspicuous, for Suetonius says "he had a handsome face, but it was often full of pimples." Whether he had been more successful in acquiring the proverb's alternative qualification must be left to the judgment of the historian. It is interesting that a contemporary of

Tiberius, the poet Ovid, expressed almost the same opinion about age as a teacher of medicine; in his third *Epistle* from Tomi in Pontus, the place of his exile, he wrote to his friend Rufinus, in terms that were markedly medical in their phraseology, and added the reflection, "I am better known to myself than to my physician" (*Sed sim quam medico notior ipse mihi*). Whether he borrowed from the Emperor or the Emperor from the poet may be left to classical scholars to decide. It is, however, of some interest to note that a modern writer (Matthew Arnold), in his short poem *A Wish*, shared with Tiberius the desire to see his death-bed unencumbered by physicians:

Nor bring to see me cease to live,
Some doctor full of phrase and fame,
To shake his sapient head, and give
The ill he cannot cure a name.

There are yet other aspects of the physician's work which give themselves into the power of the spiteful proverb; amongst these may be named the saying that "One doctor makes work for another." This, perhaps, reflects an opinion which is not uncommon among the laity, that consultations with specialists are not always necessary, and one must not forget that careless and forceful midwifery prepares the way for reparative gynaecology. There is truth likewise in the adage that "physicians are costly visitors," but the doctors may retort that the visits they pay must be paid for.

The programme of the Book of Proverbs (*Prov.* I, vv. 2-6) states that one among the many purposes for which it was written is to enable a man "to understand a proverb and the interpretation, the words of the wise and their dark sayings." Now, of dark sayings about medical men, surely the following Talmudic one is a good example: "Choose no town for thy residence where no horse neighs, and no dog barks, and where a physician is the head man." This is indeed a riddle or hard question (*Chidah, Heb.*), but a little thought shows that, of course, such a town must be full of disease else a physician could hardly be its head man; it cannot, therefore, be a desirable place to live in. Another dark saying from the Talmud is this: "Seven have no portion in the world to come; a notary; a schoolmaster; the best of physicians; a judge in his native town; a wizard; a congregational reader; and a butcher." An explanatory note gives the reason that they are either heartless, careless, partial, or unscrupulous; but it would seem that the physician is added to the list because he is needless, there being no disease in the next life. A very commonsense and penetrating proverb from the same source is the statement that "a physician who professes to cure for nothing is often worth nothing." Gleanings from this field of literature give yet one more proverb, for there is a verse in the apocryphal book of *Ecclesiasticus* (c. xxxviii, v. 1), which reads "Honour a physician with the honour due unto him for the uses which ye may have of him, for the Lord hath created him." This seems at first sight to depreciate the

medical profession, and to counsel in a worldly-wise way the future sick man early to make a friend of the doctor to whom he must later have recourse ; but it may simply mean to honour the physician because God has made him what he is, and given him his knowledge and skill. In fact, verse 12 reads : "Then give place to the physician, for the Lord hath created him ; let him not go from thee for thou hast need of him."

This first survey of medical proverbs and dark sayings must now be brought to an end. The list of adages which are more or less derogatory to the medical man is a fairly long one, and it might have been added to by the inclusion of such fragments of experience as "Fear kills more than the physician," "Time cures more than the doctor," and "Better wait on the cook than the doctor ;" but the aspects of proverbial medicine revealed by them have been already seen in others which have been named.

On the whole the medical man comes out of it all fairly well ; his value to the State and the individual is recognised, although the undeniable fact that in his lifelong fight with death, disease, and distress he is often worsted is not concealed ; some of his foibles are hit off, and his own frailty as one with no immunity from the very ills he seeks to deal with in others is loudly proclaimed ; but at the same time most of the sayings about him can be repeated without malice, and are indeed free from venom. His patients fully realize their readiness to send for him when they need him, and they do not disguise their gladness when they can dispense with his services. Byron, after giving his readers a prescription in verse, has the following stanza :

This is the way physicians mend or end us,
Secundum artem : but although we sneer
 In health—when ill, we call them to attend us,
 Without the least propensity to jeer.

The physician is justified in turning the tables upon his patient and making some such proverb for him as "When I'm sick, please come quick : when I'm well, don't ring my bell ;" or he may parody the lines of Sir Walter Scott and put the situation thus :

O, doctor, in our hours of ease,
 We scorn your aid, refuse your fees ;
 When pains assail, when throbs the brow,
 You cannot come too quickly now.

The British Medical Journal, December 2, 1911.

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SOME IMPERATIVE PROBLEMS OF MEDICINE.

BY JAMES KRAUSS, M.D., BOSTON, MASS.

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Research.*

In a public lecture of an educational tendency, such as our association requires us to give once a year, it may not be too paradoxical to say that of all imperative problems of medicine the first problem is to ascertain what medicine really is.

Last year we showed how medicine, for some time the instrument of superstition, of supernaturalism, of metaphysics, has through observation, experiment and generalization, become a science. We showed how occurrences, ordinary facts, become the foundation for scientific facts, how general facts, generalization from related facts, become scientific facts as they describe, explain, connect correctly actual occurrences.

Facts, occurrences, are barren, incomplete, of no consequence really without the truth that is behind them, the truth that develops the relationship of facts, the principles which permit us to use the knowledge of this relationship with precision in the everyday business of medical work. We must have facts, for they are the materials with which we are dealing, but we must have much more than facts, we must have the moving ideas, the principles, the truths that are behind the medical facts,

and it is these ideas, these truths behind our medical facts, that really constitute the imperative problems of medicine of the present day.

History gives us the perspective. For centuries, when active treatment of patients was instituted—and when was it not?—the treatment followed was on this line: Here is the body of a patient, a structure admitting of a more or less mechanical or chemical consideration. To affect such a massive structure in disease, substance in quantities sufficiently massive to make a mechanical or chemical impression must be used. Then came the year 1799. In that year, for the first time in the history of medicine, we meet with the small dose. The small dose was introduced by Hahnemann.

It appears that one problem of medicine is very nearly settled—the necessity of the small dose. The small dose has come to stay. The argument has been made repeatedly that if patients can get well with small doses of drugs, patients can get well without drugs. A whole school of therapeutic nihilism has risen, disappeared, and risen again upon this argument. It is not necessary to mention religious healers who have attempted to cure people on the assumption that they require nothing, as disease is immaterial, health is immaterial, only tribute is material. Even medical men have tried to set aside symptoms by suggestion and analysis, but those of us who are in active practice have found repeatedly that when the patients are not overwhelmed by authority or a momentary subjective inclination to fall in with the suggestion and direction of the physician, symptoms that are true symptoms naturally remain. Actual disease requires actual treatment. There can be no question as to that. What it does not require is overtreatment, massive dosing.

The small dose has become justified through pathology, through physics, through chemistry, through biology. To-day we know definitely that the body is made up of millions and millions of cells of the smallest dimensions, microscopic and ultramicroscopic bodies. In diseases, it is these minute cells, and

not Alpine structures, that are affected. We also know that nature works only with the smallest mathematical magnitudes. It has been calculated on the principles laid down by D'Alembert, Maupertuis, Euler and other mathematical physicists, that one milligram (0.001) of Mass, that is, about one fifteen-thousandth ($1/15,000$) part of a grain in weight, represents about sixteen million million millions (16,000,000,000,000,000) of molecules. The diameter of a single molecule is four ten-millionth ($4/10,000,000$) parts of a millimeter, or one ninety-eight thousand four hundred twenty-five millionth ($1/98,425,000,000$) part of an inch. These dimensions relate only to molecules, physical units, not to atoms, which are chemical units and which upon combination, go to form physical units. Drugs penetrate the body not in mass, but through molecular, atomic, ionic dissociation. Van't Hoff, the great creator of chemistry in space, has proved that salts in dilution obey the laws not of solids but of gases, that salts in solution do not have their molecules intact, but are broken up into ions bearing electric charges. One gram (1.0) of salt, or about fifteen (15) grains, dissolved in fifteen hundred (1,500) tons or over fifty million (50,000,000) ounces of water, can be made to carry an electric charge. It has been calculated (Francis, "The Electron Theory") that the repellant force of the electrons within the atom is a trillion trillion times greater than gravitational attraction. The physical and chemical properties of solutions of salts depend to a large degree on the activities of electrons, electrically charged ions. The energy inherent in ions is almost beyond belief. If we take three one-thousandth parts of a gram (0.003) of polonium, the element discovered by Madame Curie, and spread it out along a strip of copper one centimeter (1 cm.) wide and as long as the equator, that is, about twenty-five thousand (25,000) miles, three centimeters (3 cm.), or a little over an inch of this elongated and attenuated strip of polonium would suffice to discharge the electroscope, an instrument indicating electric influences. Pasteur and Wright proved that minute rather than massive doses of vaccine must be employed

for the best results. The division of drugs into their molecular, atomic or ionic constituents facilitates their reception by the cells of the diseased organism.

This brings us to another problem of medicine. Is there really such a thing as cure, or is it merely a sort of immunity that medicine may produce? Pasteur laid the foundation for what he came to be known through the further labors of Koch and Wright and many others as bacterial therapeutics. Bacteria and their products have been utilized in the treatment of infectious diseases upon the basis of what some have been pleased to call the law of immunity. What is immunity? Immunity is the physical ability to resist disease. What is the law of immunity? It is the assumption that patients get well without any treatment from outside, that the organism assailed by infection creates within itself new products for the warding off, the neutralization and the destruction of assailing infectious material, and that thereupon the organism retains a certain degree of resistance to such further infection.

Pasteur thought that during the multiplication of offending microbes in the body they exhausted some substance necessary for their maintenance and then ceased to grow and the individual recovered with consequent immunity. Metchnikoff (1883) disclosed the power of the white blood corpuscle, primarily the small polynuclear variety, and secondarily, the large mononuclear variety, to grasp, swallow, digest and gradually absorb offending bacteria (phagocytosis). Some bacteria cause disease by multiplication and progressive invasion. Other bacteria cause disease by elaborating specific soluble poisons, toxins. These toxins when thrown into the circulation give rise to specific bodies, the antitoxins of Behring (1892), which are specifically antagonistic to toxins and which neutralize the toxins, according to Ehrlich through chemical union, just as an acid neutralizes an alkali. When bacteria reach the circulation, they acted upon by constituents of the normal blood, the normal alexin of Buchner (1889), or bacteriolysin of Pfeiffer (1894), or complement of Ehrlich (1899), and by specific substances which form in the

blood only in response to specific bacteria, the bacteriolysins of Pfeiffer which dissolve, the agglutinins of Gruber and Durham (1896) which coagulate or clump, the precipitins of Kraus (1897) which precipitate the bacteria, and the opsonins of Wright and Douglas (1904) which prepare the bacteria for readier digestion by the white blood corpuscles. In the disposal or breaking up of the bacteria their intracellular toxin or endotoxin may come into action, and as this toxin does not give rise to the formation of antitoxins, there may be an aftermath of intoxication which may be taken care of by the normal alexin of the blood.

It is the old, old story that nature, the *vis medicatrix nature* of the Latinized minds of the profession, the biological make-up of the human organism, is self-sufficient. It is the old, old error which sooner or later, consciously, or unconsciously, every physician recognizes. Behring found that natural antitoxin was not always sufficient to neutralize the toxins of bacteria. He, therefore, produced animal antitoxin, to be injected into human individuals when they are short of antitoxin. This is the principle of serum therapeutics. Pasteur, Koch, Wright found that the white blood corpuscles of the diseased organism were naturally not always sufficient to dispose of the offending bacteria so Pasteur took the living virus, the secretion, and old cultures of bacteria, Koch took the toxins of pure bacterial cultures, attenuated them and injected them into human individuals, as Wright puts it, to stimulate them to a greater production of defensive agents. This is the principle of vaccine therapeutics. Ehrlich found that drugs introduced into the circulation create their antibodies as bacterial toxins create their antitoxins, that repeated dosage produces immunity by direct, specific action on the parasites (parasitotropic) or on the body cells (organotropic). There is a specific chemical affinity between specific living cells and specific chemical substances. A parasite-destroying drug will kill either all the parasites with one stroke or will kill only a certain number of parasites, and the remaining ones will be destroyed by the rapidly forming antibodies in the blood. This is the principle of Ehrlich's chemical therapeutics.

Of course, we have to assume if we wish to conclude. But because we conclude it is not proved that what we assume is true. What we assume is either demonstrable or not demonstrable. If demonstrable we must demonstrate that it is true. If not demonstrable, the result must speak for our assumption. If the results are all that they should be, the assumption is correct. If the results are not all that they should be, the assumption may still be correct as far as it goes, but is not comprehensive enough, is wanting in its terms and implications, or the assumption is faulty throughout. The difference between a mere assumption and a real theory is this : A theory is, if not proved, at least provable. A theory is comprehensive in its terms and implications. A theory is true in its results.

What are the results ? It appears that many patients fail to generate sufficient antibodies, fail to produce a sufficiency of defensive agents, for all patients treated with antitoxin or vaccines do not get well. The far-reaching claims of therapeutic benefit for serum and vaccine immunization are not borne out by clinical observations. Instead of immunity there often occurs hypersusceptibility. Instead of a cure there are relapses. There is at best an armed peace between infection and defence, ready to be broken at the first opportunity. When patients recover, they are not as they used to be before they were attacked.

The reason is not far to seek. It is impossible to introduce any substance into the body, be it food, drug, serum or vaccine without alteration in the process of incorporation. Whether we assimilate or eliminate the substance incorporated, there is alteration of body and substance. Food that goes to make up the wear and tear of flesh and bone, protein, is stored up in early life, but in adult life, the excess is eliminated, partially oxidized, by way of the kidneys. Fatty and starchy foods that go to make heat may be stored in excess as fat at all times, and need not be promptly eliminated through the lungs, the skin and the kidneys. Just as nutritious substances become incorporated, just as they enter into combination with cell protoplasm, so do offending substances. It can be nothing but pure assumption to say that

certain substances will attack, therapeutically, only bacterial cells, and other substances will attack only cells of the body proper. It is pure assumption to say that the reactive products of infection confine themselves to their specific cause. Roux showed that tetanus serum is antitoxic not only to tetanus toxin but also to snake venom. Snake venom is active also against scorpion poison. Yeast cells increase phagocytosis for yeast cells, and opsonic activity toward staphylococci (McFarland, L'Eugle, etc.). Animals immunized with egg albumen of the chick yield precipitins for the egg albumen of related birds (Coplin). It is a mere assumption to say that the power of immunity will stop with resistance to bacteria and their products, and will replace only those tissues and fluids that are cast off in the process of immunity. The regenerative process tends to over-production. According to Weigert, among the latest observers, and according to the best observers of all times, the tendency of the natural process of repair is to exceed the absolute requirements. The *vis medicatrix naturæ* works blindly.

The vital problem of medicine is the cure of patients. There are not only infectious diseases, which have been treated on the basis of the so-called law of immunity, but there are other diseases—developmental, nutritional, traumatic—which require treatment, some adjustive treatment, some curative treatment. In adjustive treatment we aim at a mechanical effect. We adjust the human mechanism in certain of its parts, physical, chemical, psychical, according to physiological tenets and requirements, and let the disordered organism put itself in order. In curative treatment, we aim at a substitutive effect, a dynamic effect. We introduce into the body a new extraneous energy; we substitute the more or less transient energy of the remedy for the more or less permanent activity of the disease energy; we cure what the native power of the organism alone cannot cure.

It is necessary, therefore, that we know with exactness the power of action that rests in our tools, in our remedies. Just as we palpate, inspect, auscult, percuss the body to detect and weigh symptoms of disease, disease effects, just so we ought to

palpate, inspect, auscult, percuss the body to detect and to weigh, by the symptoms that drugs produce, drug effects. We cannot tell what there is in a drug from its physical qualities (Galen), from its resemblances to certain parts of the body (Paracelsus), from its sensory attributes, or even its chemical constitution. The only way we can learn what there is in a drug is by studying its effect on the organism. For centuries, drugs were given to the sick and effects on the sick were taken to be drug effects, and on that basis drugs were continued to be used on the sick. This *post hoc ergo propter hoc* medication is the principle of empirical medicine. On the other hand, Haller (1771) suggested that if we wish to know the action of drugs, these drugs should first be tested on the healthy human body. The first complete test of a drug in the healthy human body was made by Hahnemann on himself during the years 1789 and 1790. There were those that followed him, and those, like the school of Schmiedeburg, that preferred to learn the drug effects from tests on animals rather than on healthy human beings. From the ascertained action of drugs on the healthy organism, animal or human or both, it is determined how drugs will act upon sick persons, and on that determination the drugs are used on sick persons. This is the principle of rational medicine.

The testing of drugs on the healthy human organism was the means of bringing forth what I conceive to be the most far-reaching discovery in medicine, viz., a drug produces in the healthy human body not merely one symptom but series of symptoms, subjective and objective, corresponding to entire disease pictures. We can diagnose drug remedies as we can diagnose disease by their manifestations in the human body. The physician who allows himself to forego the knowledge of this fact lives in assumption and practices on hypothetical indications.

In a science like medicine, which deals with the complexities of structure and function comprised in human life, constant assumptions lead only to uncertainties. Yet nowhere is certainty so much to be desired as in medicine. Medicine is deluged with

unorganized material. Because we have thousands of years of medical practice behind us, it does not mean that our records represent the value of as many years of scientific progress. Because men devote time and effort and money on research work in medicine it does not follow that the work is good, and in the direction of medical certainty. The world is flooded with bad research work. Millions and millions of money are spent for research work that is not research work. Medically, most of the work goes beside the point. The money, often the offered balm for unforgotten sins, might just as well remain in the hands of the sinners. Numbers do not necessarily give exactness. Experiments are at best factitious. "Facts are stupid things," said Agassiz, "unless brought into connection by some general law." This, as we have shown, cannot be done by assumptions that defy proof. But what assumptions cannot do a correct method of procedure that requires no assumptions can do.

The American Association of Clinical Research is in possession of such a method. The method is known as the conjoined clinical method of research. It fortells errors of observation and experiment to be corrected by later observations and experiments. The method corrects observational and experimental error by simultaneous observation and experimentation. It admits of no preconceived notion. What is required is only unquestionable facts. It does not require details to be garnered by centuries. The facts of the immediate present are enough. It takes primarily nature's experiments as a whole, through the process of observation, and secondarily man's experiments as factitious combinations of circumstances made to reproduce nature's facts, through the process of experimental observation, but does not accept a part of the whole nor factitiousness for naturalness. Statistical tabulation presupposes uniformity of clinical conditions, but such uniformity does not exist. Tabular statements cannot give the essentials, the minutiae, the differences which are necessary for adequate, precise, comprehensive, complete conclusions. Experiments cannot always reproduce all the circumstances under which observations are made, cannot reproduce

the clinical continuity, and even when applied to a stationary phase is not necessarily correct, exact or valid. But it is different when we proceed upon the method of conjoined observation and experiment. We can consider the human element throughout its continuity, in all its minutiae and differences. We can verify one observation by another observation, the corrective or control observation taking place at the time of the original observation.

There is no physical hindrance to this method. We have now microscopes where two observers can observe the same object at the same time. Astute men already advocate this method for teaching purposes. If good for teaching and study, the method is good for investigation, for research. The method is so simple that, perhaps, the greatest objection to it, if such an objection could sanely be made, would be its simplicity.

The method is as follows: Two men make and record their observations simultaneously and independently on the same patients. One man applies the treatment in one case; the other man applies the treatment in other case; but both men observe and record throughout, independently, though simultaneously, what is done and what the results may be in every case.

Thus we obtain unquestionable facts. The association has issued leaflets which give in concise form directions for the natural observations of clinical phenomena in the all-inclusive sense of disease phenomena. The observation may be carried on in the smallest as well as the largest hospitals, and even in private practice where two men work together. As soon as the association will have its own hospital—and it will not be many years before it will have its own—there will be a home for conjoined clinical research work, for the conjoined observation and collection of clinical experience, and it will make the beginning of the end for much of the worthless, foolish research work now going on, worthless and foolish because it lacks correct methods of attack.

The problems of medicine require observers for the collection of facts; interpreters for the interpretation, analysis and classification of facts; theorists for the correlation of facts and

deduction of their underlying principles ; and organizations for the dissemination of facts and principles proved true.

The American Association of Clinical Research is the only organization in existence which has set its object on the systematic scientific investigation of the science and art of medicine, the systematization of medical experiences for the purpose, first, of ascertaining what is true in the present practice of medicine and surgery, and secondly, of advancing the scientific practice of medicine and surgery on the basis of truth and not of whim.

Stevenson asks, in his "Virginibus Puerisque," "How would you have people agree when one is deaf and the other blind ?" I say, by making them feel.

No one who is sane can deny facts. The American Association of Clinical Research accepts records from whatever source, provided no question can be raised that they represent actual clinical phenomena and contain the original data. The data are examined, analyzed, correlated, and the facts and the principles deduced from them are disseminated, irrespective of whether they strike the deaf or excite the blind, for the aim is to stop the greatest scandal of the medical ages, the chaos and inertia of mere empiricism, and to place in its stead the fertile principles of rational, scientific medicine.—*The Journal of the American Institute of Homœopathy*, February, 1912.

THE URINE AS AN AID IN DIAGNOSIS BY THE GENERAL PRACTITIONER.

By S. H. BLODGETT, M.D.

Boston, Mass.

I shall limit myself in this paper to discussing conditions of the urine which can be recognized by any physician, either by inspection of the urine, or by means of the simplest clinical tests. The methods of making these tests I shall describe at the latter part of the paper. Probably no one fails to recognize of what benefit the examination of the urine may be in a case

where there is some primary disease affecting part of the urinary tract ; but fully as important, as in these cases, we must remember that the analysis of the urine is oftentimes of great benefit to us even when there is no distinct kidney disease, and very frequently in cases where some organ or set of organs are not functioning correctly (yet there is no distinct disease present in the kidney) you can get an indication from a simple examination of the urine which will guide you to the seat of the trouble. Frequently also, in a case where you are doubtful about the diagnosis, the examination of the urine will help to clear up the diagnosis and help to indicate the treatment ; and often our prognosis will be influenced largely by the facts which we may gather from these slight urinary examinations.

If called to a case of vomiting, with perhaps a slight rise in the temperature, an examination of the urine will indicate to you whether the vomiting is due to an attack of catarrhal jaundice ; if so, the urine will show the presence of bile from twenty-four to forty-eight hours even before the white of the patient's eyes will show the characteristic yellow color. If, however, on examination of the specimen, you find no bile is present, test for acetone and diacetic acid ; if they are found to be present in the urine, it will indicate to you that the seat of the trouble is in the pancreas and that you will quickly cure your patient by the administration of bicarbonate of soda. This is the form of vomiting the first mention of which was made by me in 1907, and which I have since demonstrated, causes about 95 per cent. of all cases of pernicious vomiting of pregnancy, and about 20 per cent. of all other forms of persistent vomiting, including nearly all cases of so-called cyclic vomiting of children. Where the vomiting is due to so-called uremic poisoning (and this form of vomiting may be present in rare cases without any distinct kidney disease) the test for albumen, which will usually be present in considerable amounts, will often help you to decide ; although in some of these latter cases a more complete analysis of the urine might be necessary. Vomiting is often a precursor of so-called diabetic coma, and the test

for sugar would help you in a case of this sort to arrive at a correct diagnosis.

In a case beginning with a chill, slight nausea and perhaps some vomiting, pains throughout the muscular system, intense headache, some slight cough and a few rales in the chest, an examination of the urine would help to differentiate between pneumonia, gripe and acute nephritis.

In cases of gripe, you would get a somewhat high-colored urine with a small amount of albumen, and the chlorides approximately normal. While in the larger majority of cases of pneumonia (about 90 per cent.) you would get the same characteristics of the urine, except that the chlorides would be very much diminished, and even in some cases entirely absent. If the case is one of nephritis, you would find a smoky or bloody color to the urine, with a much larger quantity of albumen. In connection with pneumonia I would say that the chlorides will reappear in the urine from twelve to twenty-four hours before the temperature drops and resolution sets in, thus assisting you oftentimes very materially in your prognosis, in this disease. Thus you see how the simple daily test for chlorides may greatly aid in your diagnosis and also prognosis of a case of pneumonia.

During scarlet fever, frequent examination of the urine is quite important, and specially after convalescence has commenced. It is very simple for the physician to keep a test tube and a small bottle of acetic acid at the house of the scarlet fever patient, and it takes only a few minutes to test the urine on each visit. If the albumen begins to increase in amount after the temperature has gone down to normal, it should be an indication to you to put your patient back again in bed and regulate the diet, allowing only a light diet consisting of milk, from which most of the cream has been removed and in addition, any other non-irritant article of food. The patient should remain on this diet, not being allowed to go out and about, until the albumen has again virtually disappeared from the urine. I have often seen cases (following scarlet fever) where the amount of albumen

has increased for several days before the swelling of the ankles has appeared and if, when the albumen begins to increase, the patient is put back in bed ~~at~~ once and given a bland diet, the ensuing symptoms will be much less severe. I feel very confident that if your scarlet fever patients should be watched until the albumen has entirely disappeared from the urine, we should see fewer cases of chronic nephritis where they give us a history of having had scarlet fever from one to five years previously.

What I have said about scarlet fever applies (although not so frequently) to diphtheria, although there is usually less trouble with the kidneys following diphtheria than after scarlet fever.

In cases of pregnancy, the larger portion of cases of convulsions can be foretold by the examination of the urine and their occurrence can be prevented by proper treatment. Here the amount of albumen and the amount of urea excreted daily, taking into consideration the amount of nitrogenous food ingested by the patient, will help you to determine whether convulsions are likely to occur. Urea of less than ten to twelve grams in twenty-four hours should excite your suspicion, and if in conjunction with this, there is a large amount of albumen and the urea shows a tendency to grow less and less, the patient should be ordered to remain in bed, and, if possible, placed on a diet containing a considerable amount of water, thin milk and crackers, bread, fresh fruit and vegetables. If the excretion of the urea continues to decrease, or if headache, spots before the eyes, or neuralgic pains occur, the induction of labor should be undertaken at once without loss of time.

I am going to make a slight digression here and urge that when you have to consider the induction of labor, you consider most earnestly doing it early, and to back up my advice by figures, I am going to quote you briefly some of the statistics which I have gotten from the cases of eclampsia and induction of labor during the last two years from the Maternity Department of the Massachusetts Homœopathic Hospital.

In 1909 there were hundred and eighteen cases of confinement. Out of these, four cases were admitted to the hospital

in convulsions, which we shall, of course, not consider. There were ten cases where labor was induced, sometimes on account of the symptoms, more commonly on account of the occurrence of convulsions. Classifying these ten cases, five of them had a urine showing on examination an exceedingly low urea and a large amount of albumen. Labor was not induced until convulsions began. The five mothers, and also the children died. There were two cases showing a low urea and a lot of albumen with the usual accompanying symptoms of uremic toxemia. Both mothers died and both children. There was one case of the same sort, where labor was induced early, before any symptoms of convulsions occurred. The mother and child lived. There were two cases of low urea accompanied by a trace of albumen. Labor was induced early with the loss of one child.

During the preceding years, the results had been so unfavorable, that during the latter part of 1909, it was decided to advise the induction of labor earlier. During 1910 induction of labor was advised in most of the cases where it was felt that convulsions in all probability would occur if pregnancy were allowed to continue; in other words, where it was felt that convulsions would probably occur if pregnancy were allowed to continue, the induction of labor was advised early.

During this year there were five hundred and eighty-six confinements. Four cases were admitted in convulsions, and of course are not to be counted. During 1910 there were thirteen cases where labor was induced; of these, there were nine cases where the examination of the urine showed a low urea with large amount of albumen. One mother was lost and three children (two of them not being viable). There were two cases of low urea accompanied by a trace of albumen where the two children were lost. There was one case where the urea was normal, there was a large amount of albumen accompanied by the usual symptoms of uremic poisoning, the mother lived, but the child was born dead from pressure on the cord. There was one case of normal urea, with a slight trace

of albumen and the usual clinical symptoms, where mother and child both lived. This latter case, I think, would have gone on probably to full term and normal labor, without any harmful effects either to mother or child.

During 1909, as you will see, there were ten cases of induction of labor; in most of them, labor was not induced until convulsions had commenced, and in these ten cases there was a loss of seven mothers and eight children. While in 1910 there were thirteen cases of induced labor, all of them being induced before convulsions appeared, and during that year there was one mother and six children lost (with the loss of one of these children due to accident).

These figures must be compared with those of the previous year where seven mothers and eight children were lost. It may be claimed by some that more of these cases during 1910 might have gone on to full term without harm to the mother or child, but a perusal of the figures for the two years, I think will convince any unprejudiced person, that where we can foresee the probable occurrence of convulsions, the early induction of labor will result in the saving of the mother's life and if the child is viable there will be a better chance of saving the child's life than if pregnancy is allowed to go on until convulsions occur.

These statistics in greater detail and this entire subject of the toxemias of pregnancy I am now incorporating in a paper concerning some of the toxemias of pregnancy; but once more to return to my present subject, I would say that by means of the urea test and the albumen test, we can often foretell the probability of the occurrence of convulsions; at last we can recognize the danger signals sufficiently to warn us to send the urine to a well-equipped laboratory for an expert opinion.

A large amount of urine passed in twenty-four hours, especially if of normal color, should at once suggest to you the possibility of sugar, and the specific gravity if at all high, would be another reason for you to test for sugar. If sugar is found to be present, you should certainly test for acetone and

diacetic acid, before you decide in relation even to the preliminary diet. If considerable amounts of acetone and diacetic acid are found to be present in a urine containing sugar, especially if the patient is on a varied diet, it should cause you to hesitate very decidedly before placing the patient on a so-called diabetic diet, as under these circumstances, if you remove too many of the carbohydrates from the diet, you may suddenly induce an attack of coma which will be probably followed by death.

If you find a patient with an open sore on the foot and the history given you is that while cutting a corn a few weeks before they cut so deeply that it bled and since then they have been unable to get it to heal, or if on one of the toes or on the ball of the foot a dark dry place appears and will not be replaced by healthy skin, if either of these symptoms occur test the urine at once for sugar and it will usually be found present. In addition to the sugar you may find other characteristics of the form of glycosuria which I have classified in my paper "Glycosuria" as class B.

Itching of the labia, especially in women of fifty years and over, is almost always an indication of glycosuria, and the urinary test may completely clear up what had previously been to you a rather blind case, and allow you to quickly and easily relieve your patient of a most distressing affliction.

If your patient is going to be anesthetized for an operation, a simple examination of the urine would tell whether there is some pre-existing kidney lesion which would preclude the use of ether or chloroform, and would also indicate to you, whether ether or chloroform is the better anesthetic to use. If you find the urine to be normal in color and the specific gravity low, say 1006 to 1013, never give chloroform and do not give ether, unless absolutely necessary. On the other hand, if you find the urine has a pale color and a low specific gravity you can infer that this is usually due to a state of nervous apprehension. This condition often happens in children and frequently in adults before an operation or any other ordeal, such as an examination or an

appearance in court, and it frequently occurs in applicants for life insurance. It also occurs usually in cases of interstitial nephritis, but the urine is likely to be more pale and the specific gravity lower when the condition is due to nervous apprehension.

If there is a large amount of albumen, unless in case of an emergency, the operation should be postponed until the twenty-four-hours of urine can be collected and thoroughly examined, and if there is evidence of acute disturbance in the kidney, gas should be used in preference to either chloroform or ether. Operations, if not over one-half hour in length, can be carried through under gas anesthetic. If sugar is present, my experience has been that ether is the best anesthetic and having seen operations (some of them emergency ones) on patients afflicted with each of the forms of glycosuria except from C, I should say that I have never seen any harmful results from the anesthetics. Possibly it may be of interest if I say that during the past seven years at the Massachusetts Homoeopathic Hospital, where the urine from each case for operation is examined, we have found that sugar in fairly good-sized amounts has been present in the urine of a number of cases sent in for operation for acute appendicitis and that without restricting the diet in any way, the sugar has entirely disappeared from the urine within three days after the operation.

In the case of an alkaline urine, where the operation is to be on any part of the urinary tract, you will get better after-results (provided the alkalinity of the urine takes place in the bladder) if you wash the bladder with a solution of permanganate of potash, once or twice a day, until the urine becomes acid.

Oftentimes, it is necessary for you to decide in what part of the urinary tract the alkalinity of the urine takes place, and in this connection I might tell you how to find out by a simple method where a urine becomes alkaline in a given case. Wash the bladder thoroughly once a day with permanganate of potash, until the permanganate returns from the bladder unchanged in color; then send through the irrigating apparatus, boiled water. Following this, have each urination tested with litmus

papers, as soon as passed. If the first few urinations, or even the first one, is acid, it means that the alkalinity is taking place in the bladder, while if the first urination is as strongly alkaline as before the washing, you can safely judge that the alkalinity is due to process in the kidney, in the retrograde metabolism, or that the patient is taking an alkali. If considerable amounts of blood or pus are present in a woman's urine and you do not wish to, or for some reason cannot, subject your patient to catheterization in order to judge whether the pus or blood comes from the vagina or bladder, you can instruct the patient to insert in the vagina just before passing urine a pledget of gauze which has been previously wet in water, and if pus or blood then appears in the urine, you can be quite sure it comes from the urethra and not the vaginal tract.

If called to a case when the patient is in coma with stertorous breathing, the examination of a specimen of the urine (even if none is passed, enough can be secured by a catheter) will quickly allow you to determine whether it is due to glycosuria and necessitating one form of treatment, or if sugar is not present, but a large amount of albumen, it will indicate to you, that the coma is due to so-called uremic trouble, and will indicate to you an entirely different line of treatment.

If called to a case of unconsciousness in a pregnant woman, an easy clinical test is to take a catheterized sample of the urine, put in a dessert spoon, add to it a drop or two of vinegar, and boil it over a lamp. If the coma is due to intoxication from non-elimination of poisons through the kidney, you will find that on boiling, the specimen will become thick, creamy and white, due to a large amount of albumen; while if this test does not show albumen in appreciable amounts present, you can safely say that the fault probably is not in the kidneys.

The test for indoxyl will oftentimes aid you very decidedly, in deciding as to the proper treatment in a case of indigestion. If enough hydrochloric acid is not secreted by the stomach, there will be an abnormal amount of putrefaction going on in the small intestine. This will show in the urine by an increase

of the indoxyl above normal. Pus which is retained in any part of the system, when absorbed, will cause an increase in the amount of indoxyl, and frequently the diagnosis of empyema can be made more certain by finding a large increase in the amount of indoxyl in the urine.

Malignant growths of the stomach and upper intestine and liver are usually accompanied also by a very large increase in the amount of indoxyl, and often this simple test will be one of the strongest factors in helping you to arrive at a correct diagnosis in one of these cases.

One of the early clinical symptoms of chronic interstitial nephritis (and a symptom which if present continuously ought to make you very suspicious that chronic interstitial nephritis is present) is that the patient passes a larger amount of urine by night than by day, and if you find in an obscure case that the patient is persistently passing more urine during the night twelve hours, than during the day twelve hours, you should have a more careful and complete examination of the urine made than is possible outside a urinary laboratory.

The treatment of a case of acute nephritis or hyperemia, will be influenced very decidedly by the amount of albumen in the urine, and how readily and how fully it disappears as treatment progresses. A recurrence of the albumen should indicate to you that the patient should again be placed in bed and carefully protected from drafts and from taking any irritating foods.

In regard to sediment I shall say but a few words as the proper recognition of the various substances occurring in the sediment and the correct interpretation can only, I believe, be properly performed by one in constant practice in this class of work, but from the gross appearance of the sediment, you can often draw many valuable conclusions. From a urine containing a large amount of albumen and almost no visible sediment, you can conclude that you are dealing with a case of passive hyperemia, due to trouble with the heart, or sub-acute glomerular nephritis.

Very frequently a specimen of urine is brought to a physician

from a patient who fears that he has some serious trouble with his kidney, because there is a large sediment deposited in the urine. Usually you will find that this sediment entirely disappears by heating the specimen, when, you can assure the patient that it is nothing but amorphous urates. For your own enlightenment you will know that either the patient is not taking enough water, or is not properly oxygenating the blood. If, however, there is a large white sediment which does not disappear on heating, it would either be due to amorphous phosphates, in which case the urine will be alkaline or neutral, or the sediment is due to pus. Pus in an alkaline urine usually coagulates into a thick jelly-like mass. Uric acid when present in any appreciable amount in the sediment deposits red crystals which adhere to the vessel and necessitates the use of sapolio or sand soap to remove them. A urine which is turbid, even after standing, usually contains bacteria.

TESTS.

I will give here the various tests which I have mentioned in the preceding pages, and I want it understood that these tests are all of them clinical tests. By that I mean that these tests can be performed by any physician and the ingredients can be secured at almost any country grocery store or pharmacy, and that very little or no apparatus is required for their performance. In filtering the urine for the albumen test, you can use some absorbent cotton placed in an ordinary household funnel, and a very good alcohol lamp can be made by taking a tooth powder bottle that has the ordinary metal cap, and twist enough soft string together to make a wick and fill the bottle with alcohol. Some of these tests would hardly be considered legal tests in the sense that their findings might not be admitted in a court of law, but for rough and ready tests for the general practitioner, to help him get his indications from the urine I know of no tests which are more valuable.

The normal Reaction of the urine is acid, except sometimes. •the urine passed about an hour after a hearty meal may be neutral or slightly alkaline; but the mixed reaction of the

twenty-four-hour amount should be acid. The reaction is ascertained by means of litmus papers, blue and red, which can be bought from any druggist; the blue paper turning red on dipping it into an acid urine; the red turning blue if the urine is alkaline. In case neither litmus paper is changed in color, on dipping them into the urine, the reaction is neutral.

Specific Gravity is taken by the ureometer; the normal is from 1016 to 1020. The most correct reading is secured by taking the reading from the other side of the meniscus in the urine and the temperature of the urine when tested should be from 60° to 80°.

Indoxyl: Place 15 cc. of fresh, chemically pure hydrochloric acid in a glass, to this add one drop of nitric acid then add thirty drops of urine. If the indoxyl is normal there will slowly appear a pinkish color which will finally become a pale amethyst and then ultimately in from five to twenty minutes fade away. The color may become a dark amethyst or a deep ruby red, which would indicate a large increase in the amount of indoxyl.

Albumen: To half a test tube of filtered acid urine (if not acid add acetic acid drop by drop until the normal acidity is secured) add one drop of acetic acid and boil the upper portion of the urine. If albumen is present, the portion boiled will show from a very slight turbidity to an almost solid white mass. This is due to the coagulation of the albumen which is in solution in the urine. If this turbidity appears, add more acetic acid, and if it still remains, it indicates that albumen is present and the degree can be easily approximated by the density of the turbidity. If the turbidity is due to phosphates, it will disappear when you add the final acetic acid. To detect small amounts of albumen (after boiling the upper portion) you must stand in front of a window and hold the test tube between your eye and the baseboard under the window. By this means even the slightest possible traces of albumen can, after a little practice, be detected.

Sugar: Take a quarter of a test tube full of urine, add to

this an equal amount of a solution in water of sodic hydrate, then add to this all that will remain dissolved of a solution of cupric sulphate. After thoroughly mixing, heat the upper portion, and if sugar is present you will get a decided yellow or reddish color to the portion heated. If the portion heated should change to a clear yellow liquid, you should repeat the test again, adding more cupric sulphate than you did before, at this change to a clear yellow liquid may not be an indication that sugar is present.

Chlorides : Dissolve silver nitrate in water, in the proportion of one part of silver nitrate to eight parts of water. This should be kept in a dark colored bottle and exposed to the light. In making the test, let one drop of this solution fall into the urine. If the chlorides are normal in amount, this drop will fall through the urine to the bottom of the vessel as a round ball. If, however, the chlorides are diminished, instead of falling in a round ball, it will spread out, and if the chlorides are very much diminished, you may only get a turbidity when the drop of nitrate of silver falls through the urine.

Acetone : The best test for acetone is Legal's test which is performed as follows : To a few drams of the urine, add from ten to twenty drops of acetic acid ; do not use the glacial. To this add a few drops of a solution in water of sodium nitroprussate. Shake well and add a few drams of strong ammonia. If acetone is present, within a few minutes the solution will take on a pinkish color, increasing to a dark red and almost black if large amounts of acetone are present.

Diacetic Acid : A common clinical test for diacetic acid is the ferric chloride test which consists of the following : Put some of the urine in a glass vessel (a test tube or a bottle) and into it let fall drop by drop a solution of ferric chloride in water. If diacetic acid is present, the ferric chloride as it falls through the urine will change to a deep red and then to a white ; otherwise, the drop will change from the yellow of the ferric chloride solution directly to a white. If there is any question about the reaction being present, you should filter the

solution and to the filtrate add, in the same manner, more of the ferric chloride solution, when the red color if present will show more clearly than at the first test. A patient taking salicylic acid and certain other drugs will pass urine which will show a red colour on the addition of the ferric chloride but in this case there will be no acetone present, and if the ferric reaction is present, but no acetone, you should be very suspicious whether diacetic acid is present or not.

Urea: This test, unfortunately, necessitates some apparatus and the reagents have to be mixed with great care as to accuracy, but it is simple to perform and the two reagents are stable and often considerable information can be secured from what the test shows us in the relation to the amount of urea secreted. You must have a ureometer (Hind's modification of the Doremous is the best). The reagents are fairly stable and are made as follows: Take equal parts, by weight, of bromine and bromide of potash. Dissolve the bromide of potash in eight times as many cubic centimeters of water as there are grams of bromide of potash, then add the bromine. Shake once in a while until dissolved. Keep in a dark ground glass stoppered bottle. The other solution is made by dissolving sodic hydrate in water in the proportion of 80 grams to 200 cubic centimeters. When about to test for urea, mix equal parts of these two solutions and place in the ureometer according to the directions which come with it, then slowly allow to run in one cc. of urine. After the bubbles have disappeared, the reading of the volume of the gas multiplied by the cubic centimeters of urine passed in twenty-four hours will give the amount of urea eliminated in twenty-four hours.—*The North American Journal of Homoeopathy*, February, 1912.

EDITOR'S NOTES.

Temperature of the Normal Infant.

Ganjoux and Lassabliere (*Ann. de mid. et chir. enfant.*, March, 1911) find that in the normal fetus just before expulsion the temperature oscillates around 37.5 C., without being lowered or elevated more than 0.3. In a well nourished infant at term with a temperature above 37, soon after birth the temperature becomes lowered to 35.7 or 35.5 or below; it takes about ten days for it to reach 36.7°, and at the end of one month it has attained to 37. From three months to the second year the rectal temperature oscillates at about 37.2. The above refer to morning temperatures. In children at the breast the mean curve of the evening temperature showed in 12 children an elevation, commencing at 4 a.m., and continuing for seven hours: from the latter time (11 a.m.) till 1 p.m., it remained about the same, then became elevated till 7 p.m., and fell quickly to 10 p.m., and remained stationary until 4 a.m. The temperature of children fed by the bottle showed similar changes, only a little more irregular. In children from 2 upwards the temperature ascended from 2 a.m. to 8 a.m., remained fixed until 4 p.m., and then fell rapidly, the minimum being reached between 10 p.m., and 2 a.m. The most important factor acting on the temperature was found to be exercise. Digestion did not affect the temperature curve if the stomach was in a healthy condition. The surrounding temperature also altered the curve, the latter being slightly higher in summer than in winter.—The *British Medical Journal*, November 25, 1911.

Licking Stamps.

In an age which has reached high sanitary standards with an obvious improvement in the public health, the licking of stamps is a retrograde proceeding, and any suggestion calculated materially to encourage or increase the habit is open to strong condemnation. The habit is opposed to a common sense of cleanliness, let alone what bacteriological requirements may teach. The speed of modern life, it is to be feared, forces upon us the breaking of many sanitary commandments, and hygienic consideration are made to retire in favour of methods of convenience and despatch. The adhesive stamp is a sanitary blunder, but it is a business convenience for which it is hard to suggest an alternative. No person need lick a stamp if they seriously make up their minds never to do so, but unfortunately the use of stamps has created a habit which, once

contracted, is difficult to avoid. The habit of licking stamps is, in fact, practically universal, and few people consider it an offence against good manners. There are several devices which are intended to obviate the licking of a stamp, but their adoption is comparatively rare. It is surprising to us that the resources of the inventor have not suggested something fulfilling the office of a stamp, but not open to hygienic objections. We are prompted to raise these considerations in view of the provision in the National Insurance Bill which requires the servant and master weekly to affix a certain number of stamps to a card which is left for the inspector to examine. It is fairly certain that the process of attachment will generally be done by licking the stamp. It is no defence to say that already, apart from this new legislative requirement forced upon the household, people are confirmed in the objectionable habit. The proposal obviously broadens the chances of disease being spread in this way, and definite cases of disease have been traced to it. It will be interesting to learn the medical officer's attitude when he finds cards of licked stamps in the houses in which there is infectious disease. No one can deny the extreme convenience and ease of collecting a tax in this way, but there are clearly grave objections to it upon the score of health preservation; and until it is shown that the habit of licking the stamp has died out the objection will always remain, whatever political party it may be which encourages it. Licking envelopes is equally objectionable, and it is time that human ingenuity found a convenient way of sealing a paper cover or of attaching a stamp which shall not require the aid of the saliva.—*The Lancet*, November 25, 1911.

Humidity and Health.

Though many observations on the influence of humidity in disease are scattered throughout medicine and the subject has received special attention from climatologists, our knowledge of it is empirical rather than scientific. In its discussion we are confronted at the outset with the difficulty that humidity is used in two senses—absolute and relative. By absolute humidity is meant the amount of water in the air per cubic foot; by relative humidity, the percentage that this water is of the amount which the air can hold at the same temperature when saturated. The hotter the air the greater the amount of water required to saturate it. In the *Boston Medical and Surgical Journal* of Sept. 7th Dr. P. W. Goldsbury

has published a suggestive paper on humidity and health. Though it is based on American conditions, climatic and domestic, which are very different from those of this country, his conclusions have a general application. He points out that air saturated with moisture at a temperature of 70° F. contains 8 grains of water to the cubic foot, while saturated air at 18° contains only 1 grain. Thus, if in winter with an atmospheric temperature of 18° saturated with moisture is flat be heated to a temperature of 70°, the air of the rooms, while having the same absolute humidity as the external air, will have a relative humidity of only one-eighth or 12½ per cent., as against 100 per cent. outside. Similarly, if the outside air contain half a grain of water to the cubic foot, and therefore has a relative humidity of 50°, the air of the rooms will have a relative humidity of 6¼ per cent. Now if it is remembered that a humidity of from 60° to 75° is none too much for the average conditions of human life, it will be realised how far different is the humidity of the air in which people are often housed in winter. Dr. Goldsbury finds that in schoolrooms, hospitals, and living rooms during winter the relative humidity is often below 40° and sometimes as low as 10°. Under such conditions indoor air is very dry and irritating. Dr. Goldsbury regards it as one of the prime causes of chapped hands and parched lips. To its injurious effect he ascribes the bad complexions of American women, while to the moister atmosphere and less indoor life he attributes the fresh complexion of English women. We may add that the still fresher complexion of Irish women who live in a still moister atmosphere bears out his contention. For the same reason the southern coast cities are famed in the United States for the complexions of their women. The problem of moistening heated indoor air so as to approximate its relative humidity to the more natural level of outdoor air has received little attention. Means to this end are growing plants, which give off a good deal of moisture from their leaves, porous vessels filled with water, and the placing of receptacles containing water over stoves or other sources of heat. It must not be forgotten that in some conditions, such as rheumatism, dryness of air, not humidity, is desirable.—The *Lancet*, November 25, 1911.

The Treatment of the Vaccination side with Picric Acid Solution.

Any improvement in the method of treating vaccination scratches and the consequent inflammatory processes will be heartily welcomed by those who have had much experience of vaccination. Although the numbers of untoward results are nowadays comparatively small the acute inflammatory conditions that sometimes supervene are always annoying and often extremely painful to the patient and worrying to the medical man. In *the Lancet* of Nov. 8th (p. 1397) Professor J. F. Schamberg and Dr. J. A. Kolmer, of the Philadelphia Hospital for Contagious Diseases, show that by using a 4 per cent. alcoholic solution of picric acid painted upon the vaccinated area 48 hours after the insertion of the lymph the degree of local inflammatory reaction is lessened, as is also the amount of constitutional disturbance. These observers believe that the improved conditions are the result of the germicidal action of this solution, as they find that the micro-organisms in the skin, or a large proportion of them, are killed off when the solution is applied. There seems, however, to be an additional advantage in the fact that the epithelial cells are hardened or toughened by the action of the picric acid. A kind of natural aseptic dressing is thus formed and kept in perfect condition without any bandaging or constriction of any kind, so that there is no interference with either the lymph or blood-vascular circulations. Professor Schamberg and Dr. Kolmer are very careful to put this method forward simply as tentative and preliminary, and suggest that others interested in vaccination should repeat their experiments and see whether they obtain equally good results.—*The Lancet*, December 2, 1911.

The Evacuation Power of the Stomach.

Kemp (*Arch. des malad. de l'app. dig.*, February, 1911) describes his researches on the power of the stomach to remove its contents in the healthy and diseased organ. In the first case he found that after a meal of 200 c.cm. of oatmeal, 50 grammes of basted veal, two pieces of white bread and butter, eight prunes, and a small teaspoonful of compote of bilberries, the time occupied by the stomach in removing the major part of its contents varied from three to five hours. The smaller microscopic debris took another hour, and the very smallest or microscopic remains might not be removed until twelve hours after the meal had been taken. In pathological con-

ditions he found the time occupied was much longer. In diseases of the intestine only there was no delay in evacuation of the stomach contents, but in gastric diseases retention of the contents was very frequent, more particularly in patients with organic disease. In 90 per cent. of cases of cancer of the stomach retention of the major part of the stomach contents existed from six to twelve hours, in 80 per cent. of cases of ulcer of the stomach, and in 54 per cent. of cases of gastric catarrh. From these results he draws the conclusion that if the diagnosis rests between functional dyspepsia and ulcer of the stomach, a retention of five, six, or eight hours is strongly in favour of gastric ulcer, and this is almost certain if in addition there remain in the empty stomach 50 c.cm. of hydrochloric acid. Where small amounts only are retained the author considers them to be due to a pathological alteration of the mucous membrane and he found that this was most frequent in organic lesions than in functional diseases. If this small amount is relatively abundant, an organic lesion of the stomach is almost certain. The author does not consider that the retention of the minutest remains of food has any diagnostic importance.—*The British Medical Journal*, December 9, 1911.

CLINICAL RECORD.

CASES FROM SOUTHPORT.

By F. J. WHEELER, M.R.C.S., L.R.C.P.,

Epileptic Fits at Menstruation.

E. M., age 17. Attended Homœopathic Dispensary 17th May, 1911. A short, sturdily built girl. Complexion dirty, almost leaden-coloured. Hair dark. Disposition, morose [?]. Very little could be obtained from her in the way of a history to help in selecting the Simillimum.

History.—Menstrual periods began when 13 years old. Regular; usually last a week; painless. With the onset of the periods the fits began and have continued. The fits appear to be typically epileptic in character. During the last attack the patient had a bad fall and cut her chin, the laceration requiring five stitches.

The fits commence with the onset of the period and occur nearly always in the daytime.

Chilly patient; says she could sit in front of a fire even on a hot day.

Thirsty. "*Always drinking cold water.*"

> outdoors < before m.p.

No headaches.

Nat. Mur. 30 o.m. (The single dose was intended but was given every morning by mistake.)

May 24th.—*Nat. Mur.* 10m, given in single dose!

June 7th.—Feeling much brighter in herself.

June 14th.—Period just ended. "Nothing unusual beyond having no fits."

Sept. 15th.—There have been no fits, and the girl for the first time is now able to earn her own living. There is a marked change in her appearance, she looks brighter and has more colour in her cheeks. She no longer has the thirst complained of.

Dec. 2nd.—No fits since May.

The previous treatment was allopathic, and consisted of liberal doses of *Bromides*.

CHRONIC CONSTIPATION RELIEVED BY *Ruta*.

J. B., age 47. A tall thin man who has worked hard all his life and looks many years older than his age. He has been attending the Dispensary since 1907, and for the last year has been under my

care. He has symptoms suggestive of locomotor ataxia but no Argyll-Robertson pupil.

During the four years he has had much relief for his symptoms, but one series of symptoms connected with his chronic constipation remained unrelieved. This was a continual dragging down sensation, accompanied by a desire to go to stool. He would "go and go," and yet the rectum remained inactive, and continued so until the following day. The stool was then hard and knotty and a small action gave him as much pain as a large one. He was obliged to take aperients to obtain any action at all, and even then the dragging down sensation remained.

On Sept. 16th, he was given *Ruta* ϕ $\pi j.$ and 3x to take if necessary. A week later he reported "a wonderful change," and said the bowels had acted better than they had done "for many a twelvemonth." He had not found it necessary to take the 3x as the bowels had acted regularly and he had taken an aperient. At the present time (Dec) they are still acting regularly and the bearing down sensation has disappeared. This result was from two minims of *Ruta* ϕ as the medicine was repeated on the 23rd Sept.

SWELLING OF NECK AND ENLARGEMENT OF GLANDS.

J. G., age 22. Male, tall, slim, and of dark complexion. Admitted to the Homœopathic Hospital 19th April, 1911.

C. O. A. A hard swelling on the left side of the neck, extending backwards to the posterior border of the sterno-mastoid muscle, upwards to the angle of the jaw, and downwards to the supra-sternal notch. On palpation the inflamed area was painful to the touch. Hard inflamed glands could be felt at the anterior border of the sterno-mastoid. There were scars resulting from previous operative measures; the incisions had been in front and behind the muscle. The patient had difficulty in opening his mouth, owing partly to the swelling and also to the pain which was caused by moving the jaw. The pain was throbbing and shooting in character.

P: 78, T. 97. 4., R. 20. Weighs, 10st. 10.0zs.

April 24th.—*Hepar Sulph.* Was given daily in single doses. Gradually the neck became softer and the swelling less. The potency was first given in 30 and brought down to 3. The latter evidently favoured the formation of pus, a small quantity formed and discharged itself through a minute opening which it made along one of the old scars. The neck is much more supple, and the patient can move the jaw easily and without any pain.

April 26th.—No discharge of pus now, and the whole of the affected area is softer and more normal in appearance. A large hard gland can be felt at the anterior border of the muscle. Fomentations were applied for one day only while the pus was discharging.

May 5th.—The large gland is very much smaller, and apart from the old scars the neck appears normal.

May 8th.—Left hospital to return to work. Weight 10 st. 3 lbs.

Treatment :

April 19th and 20th.—*Hepar* 30, one dose each day.

April 21st.—*Hepar* 6, one dose.

April 22nd.—*Hepar* 3, one dose.

April 24th.—*Hepar* 3, one dose.

April 25th.—*Bacillinum*, 100, one dose.

May 6th.—*Bacillinum*, 100, one dose.

This case is typical of many that are opened up and drained. If this case had been operated upon it would have required an extensive dissection and glands would have been removed which are necessary filters. Remove these, and in many instances the disease has to find another outlet. The result obtained in this case surely justifies the statement that in all similar cases medicine should be tried before operative measures are resorted to.—*The Homœopathic World*, January 1, 1912.

Gleanings from Contemporary Literature.

HAHNEMANN AND HIS WIFE

From the Portfolio of One Who Knew Them

BY HELEN BERKLEY.

Who is Hahnemann? What is homœopathia? "The master-spirit of the age—the founder of the surest and safest system of medical treatment," exclaims his disciple. "The successful inventor of a fanciful and delusive mode of practice," retorts his opponent. Which are we to credit?

It is little more than half a century since homœopathia was discovered; yet Hahnemann is a familiar name on every tongue, a venerated one on many. The bitterest enemies to the system which he founded yield their homage to his gigantic intellectual powers, revere his manifold virtues, and admit that his learning, his numerous philanthropic deeds, and above all, the elevated purity of his character, have ever preserved him against the imputation of charlatanism. Whether his principles be received or rejected, his talents, his originality, and his singular history must ever render him a subject of general interest.

In 1839 Dr. Hahnemann was residing in Paris near the Gardens of the Luxembourg. During the winter of that year, desiring to consult him in behalf of an invalid friend, I made him my first visit. That I might obtain an audience as early as possible, I entered the carriage which was to transport me to his residence, at a quarter past nine o'clock in the morning. After about half an hour's ride, finding that the coachman stopped his horses without dismounting, I inquired if we had reached our destination: "No, Madam; it is not our turn yet. We must wait a little while. See! there is Dr. Hahnemann's house," he replied, pointing to a palace-like mansion at some distance. This mansion was surrounded by a massy stone wall with an iron gate in the centre. Impatient at the delay I leaned out of the window and beheld a long line of carriages in front of us, driving one by one through the gate, and out again, as fast as their occupants alighted. This was vexatious, I had taken such especial pains to be early and—all to no purpose. But if there was any consolation to be found in the knowledge that others were even worse off than ourselves, I might have comforted myself by looking in the opposite direction. Behind us stretched a field of coaches, lengthening every minute, and already quite as formidable as the one in front. I had unconsciously taken my station in the midst of a procession slowly advancing to pay homage to this modern Aesculapius. I already knew something of Hahnemann's celebrity; but my opinion of his skill was marvellously fortified as I stared behind me, and before me and then at the empty carriages driving away around me.

In about twenty minutes the carriage in which I sat wondering and waiting, during that time having moved a few paces forward every minute,

at last drove briskly through the iron gate, around the spacious court, and deposited me to my great satisfaction, at the front entrance of Hahnemann's magnificent dwelling. Three or four liveried domestics, assembled in a large hall, received the visitors as they alighted, and conducted them to the foot of the wide staircase. At the head of the first flight they were received by a couple more of these bedizened gentlemen who ushered them into an elegant saloon, sumptuously furnished, and opening into a number of less spacious apartments.

The saloon was occupied by fashionably-dressed ladies and gentlemen, children with their nurses, and here and there an invalid reposing on a velvet couch or embroidered ottoman. The unexpected throng, the noisy hum of whispering voices, the laughter of sportive children, and the absence of vacant seats, were somewhat confusing. I entered at the same moment with a lady, who, with her nurse and child, had alighted from her carriage immediately before myself. Probably noticing my bewildered air, and observing that I was a stranger, she very courteously turned to me and said in French: "We shall be able to find seats in some other room; permit me to show you the way." I thanked her gratefully and followed her. After passing through a suite of thronged apartments, she led the way to a tasteful little boudoir, which was only occupied by one or two persons.

I knew that lady who had so kindly acted as my conductress, was a person of rank, for I had noticed the coat of arms on the panels of her coach, and remarked that her attendants were clothed in livery. But to meet with civility from strangers is of so common an occurrence in France, that her graciousness awakened in me no surprise. I subsequently learnt that she was the Countess de R—, a young Italian, who had married a French count of some importance in the *beau monde*.

We had hardly seated ourselves in the quiet little boudoir, when a valet entered, and politely demanded our cards. They were presented, and he placed them in the order received, amongst a large number in his hand. It was obvious that we should be obliged to wait an indefinite period; and I soon commenced amusing myself by examining the fine paintings with which the walls were lavishly decorated—the pieces of sculpture—the costly vases scattered about the apartments—and a number of curious medals, heaped upon the centre-table. The sculpture, vases, medals, and even some of the paintings had been presented to Hahnemann as memorials of the esteem and gratitude of his patients. Every room contained several marble busts of Hahnemann himself, some much larger than life, some as large, and some smaller. These also had been presented to him on different occasions as tokens of respect.

I was standing before a most lifelike portrait of the great doctor, lost in admiration of its masterly execution, when the young countess, who had retained her seat while I wandered around the room, joined me and said: "Do you know who painted that picture?"

"No," I replied, "but although I am not a judge of art, I should almost venture to say that it was the work of a master's hand."

"Undoubtedly it is a masterly piece of workmanship. It was executed, however, by Madame Hahnemann."

"Madame Hahnemann! Is it possible! Is Hahnemann married then?"

"To be sure; and so happily, that to become acquainted with his domestic history is of itself almost enough to induce one to venture upon matrimony."

"I am delighted to hear it. I knew nothing of him except as a skilful physician, and a man of extraordinary genius."

"His private history is equally interesting, and quite as remarkable, as his public."

"Have you known him a great while? How old is he? How long has he been married?" questioned I, anxious to obtain all the information in my power.

"I have been acquainted with his wife and himself several years. He is about eighty-four years old. He was married to his present wife in his eightieth year."

"Indeed! Was he a widower then? Is his second wife young, or as old as himself?"

"She is about forty-five years his junior, and she still retains much of the vivacity and freshness of youth."

"What induced her to marry him?"

"Veneration for his talents—esteem for his virtues—affection for himself—mingled, perhaps, with a spice of gratitude for his services to herself. You are a stranger to her, and will laugh if I say she *adores* him, but the term is not too strong to convey an idea of the truth."

"Pray tell me something of her history. I am already deeply interested."

"With pleasure. Hahnemann is the father of the most united, prosperous, and the happiest family I ever beheld. He had been many years a widower, when he was called in to attend Mademoiselle D'Hervilly who was pronounced by her physicians to be in the last stage of consumption. He was residing at the time in Coethen. Marie Melonie D'Hervilly-Gohier, then his patient and now his wife, is descended from a noble French family of immense wealth. She had suffered a number of years with a pulmonary affection and disease of the heart. The most eminent physicians in Europe had fruitlessly endeavored to benefit her. After passing the winter in Italy, whither she had been sent in the hope that a mild climate might effect what medicine had failed to accomplish, she returned to Germany, in a state which her physicians declared beyond the reach of medical aid. She is a woman of remarkable strength of mind and most comprehensive intellect. The fame of Hahnemann's wonderful cures had reached her, but she was unacquainted with his reasons for his peculiar mode of practice. Though so debilitated by protracted suffering that she was unable to make the slightest physical

exertion, she examined his system for herself, and then determined upon consulting him. He became deeply interested in her case, and in an incredibly short time, her sufferings were relieved, her cough subdued, and her *disease of the heart* assumed a different and more agreeable shape."

"And she married him out of *gratitude*?"

"By no means; she was charmed with his genius, his character, his manners, everything about him; and conceived an affection for him perhaps deeper and truer than the passion which we generally call love."

"Which he reciprocated?"

"Nay, you question too closely; I cannot answer on which side the attachment first sprang. Nor do I know any reason why it should not have originated in the doctor himself. Madame Hahnemann is a woman of the most brilliant talents; her information is extensive, her mind highly cultivated, and she is proficient in almost every elegant accomplishment you can name. Combine these attractions with that of a prepossessing person, and you will not find it easy to imagine a man insensible to her charms."

"How do Hahnemann's children like the idea of a step-mother?"

"She is tenderly beloved by them all. Her delicacy and generosity towards them are worthy of mention. Hahnemann had amassed a large fortune, which she refused even during his life-time to share with him. She was determined to give no room for the supposition that she could have been influenced by interested motives in forming this union. She stipulated before her marriage, that she should ever be excluded from any participation in the avails of Hahnemann's estate; and induced him to settle the bulk of his fortune on the children of his first wife, merely reserving for himself an annuity sufficient for his personal expenses."

"How then was she to be provided for?"

"She was already independent as to fortune."

"Madame Hahnemann must undoubtedly be a very talented woman, if this painting is hers," said I resuming my examination of the fine portrait, which had first attracted my attention.

"Not only that one but several others in the large apartments," replied Madame de R——. "Some of her paintings have been even admitted into the galleries of the Louvre. Thus her name is classed with those of the most distinguished French artists. She is a poetess, too, and her works have won a truly flattering approbation from the public."

"A poetess? Where will her qualifications end?"

"I almost believe they have no end. She is mistress of five or six languages, which she both writes and speaks with ease and fluency."

"She appears to be worthy, indeed, of being the wife of Hahnemann."

"He thinks so, I assure you. He would not now find it so easy to dispense with her services."

"Is he infirm, then?"

"Not in the least. He has always enjoyed excellent health. His sight

and hearing are unimpaired. His activity is remarkable. Even yet there are an elasticity in his movements and sprightliness in his manners which make you feel something of youth has been left to him even in age. He would never remind you of the fable of the frog, whose discerning patients cried, 'Physician, cure thyself.'

"Perhaps that is quite as remarkable as any thing you have told me about him; medical men generally look as though they needed, but feared to try, the effects of their own medicines. Since he is so active, I suppose it would be possible to induce him to visit a patient?"

"I do not think that could be easily accomplished. In a case of great peril, perhaps, you might obtain the services of his wife."

"His wife! Why surely——"

At that moment our conversation was interrupted by the entrance of a lady. She was attired in a simple *demi-toilette* and wore no bonnet; I therefore concluded she was not a guest. The instant she entered, the delicate-looking child my new acquaintance had been caressing on her knee, sprang suddenly to the ground, and greeted the lady with expressions of the most affectionate joy. She was an elegant-looking woman, with a finely-rounded form, somewhat above the medium height. Her face could not be called beautiful, nor pretty, but the term handsome might be applied to it with great justice. Her forehead was full and high, and her hair thrown back in a manner which perfectly displayed its expansive proportions. Those luxuriant tresses of a bright flaxen hue, were partly gathered in a heavy knot at the back of her head, and partly fell in long ringlets behind her ears. Her complexion was of that clear but tintless description, which so strongly resembles alabaster. There was a thoughtful expression in her large blue eyes, which, but for the benignant smile on her lips, would have given a solemn aspect to her countenance.

She exchanged a few words with Madame de R——, kissed the child with much tenderness, and addressed several other persons present. While she was conversing, the child still retained her hand, following her about, and pressing close to her side, with its little pale affectionate face upturned at every pause, as though silently soliciting a caress. In a few minutes she retired.

I turned to madame de R——, and inquired,

"Is that Madame Hahnemann?"

"Yes; is she not a fine looking woman?"

"Undoubtedly. And from her appearance, alone, I can well imagine her endowed with many of the attributes you have described her as possessing. Your little son appears very much attached to her!"

"Poor little fellow! he has good cause to be so. He had suffered from his birth with a scrofulous affection, which baffled the skill of the best medical men in Paris. They gave me no hope of his recovery, and he is my only child. At three years old he was unable to walk or even stand alone. It was then that Hahnemann arrived in Paris, and I

immediately called upon him. It was impossible to bring the child here, without risking his life, and Hahnemann attends to no patients out of the house. Madame Hahnemann told me, however, not to be uneasy, as she would herself take charge of the boy. She visited him regularly twice a day, watched him with the anxious tenderness of a mother, and prescribed for him in a manner which proved the extent of her judgment and skill. In a few months the child recovered. He has never had a positive return of the disease, but he remains exceedingly delicate. I bring him to see his good friend and physician every few weeks for the sake of learning her opinion of his health and consulting her concerning his management."

"Do you mean that *Madame Hahnemann* prescribes for him on her own responsibility?"

"I do. She is almost as thoroughly acquainted with medicine as her husband. She became his pupil with the view of assisting him when age might weaken his faculties. She now attends to all his patients, as you will find directly; merely consulting him in cases of great difficulty."

"That is being a *help-mate*, indeed. But are patients always willing to trust her?"

"Assuredly; she has too incontestably proved her skill not to be trusted. Hahnemann is no longer able to undergo the fatigue of attending to the multiplicity of cases crowded upon him. Madame Hahnemann is universally confided in, respected, and beloved, especially by the poor."

"I can well believe it. Is Hahnemann assisted by any of his children in the same manner as by his wife?"

"Not exactly in the same manner, but still he is assisted by them. One of his daughters, and a fine intelligent girl she is, has the sole superintendence of an enormous folio containing the names of all his correspondents, and the dates of their letters; also of several other folios, containing the letters themselves, arranged in alphabetical order. His other children are of service to him in various ways. To assist him is their chief delight. As I told you before, I never beheld a more united family."

"Miss Hahnemann's services alone must spare the doctor a vast deal of trouble."

"Yes, but still every moment of his time is employed. He is the most systematic man imaginable. In his library you will find thirty-six quarto volumes, his register of consultation, written entirely by himself. Apropos, his handwriting is really worth seeing. What do you think of a man, eighty-four years of age, who writes a hand firm as a man's ought to be, fine enough to be a woman's, and elegant enough to be traced on copperplate, and this without spectacles?"

"Think? Why, I think I have wondered at what you told me as long as I could wonder, and now I can only come to the conclusion that Hahnemann and his wife should be ranked amongst the curiosities of Paris, and that the sight-seeing stranger has not beheld all the marvels until he has seen them."

"Our conversation was interrupted by a valet, who announced that Monsieur le Docteur was at leisure, and would see Madame la Coutsse."

She bade me good morning, saying, "It will be your turn next; I shall not keep you waiting long."

"I hope not," thought I, as a glance at the clock informed me that it was somewhat more than three hours since I first entered the house.

A few moments after Madame de R—— left me, I was startled by hearing the same valet distinctly pronounce my name, somewhat Frenchified, to be sure, and announce that Monsieur le Docteur was ready to receive me. I was too much surprised to do any thing but stare, until I remembered that I had placed my card in his hand some three hours before. I rose and followed him. He led the way through the same apartments I had traversed on entering. The doctor's reception chamber was situated at the further end of the suite. Throwing open a door he loudly announced me and retired.

I stood in the presence of Monsieur le Docteur and Madame Hahnemann. The chamber I now entered was more simply decorated than any I had visited. In the centre of the room stood a long table; at its head a slightly elevated platform held a plain-looking desk covered with books. In front of the desk sat Madame Hahnemann, with a blank volume open before her, and a gold pen in her hand. Hahnemann was reclining in a comfortable arm chair on one side of the table. They rose to receive me, and I presented Madame Hahnemann a letter from Herr Dr. Hirschfeldt of Bremen, an eminent physician, who had formerly been a pupil of Hahnemann's.

When Madame Hahnemann was glancing through the letter, I had an opportunity of taking a survey of Hahnemann's person, for he had not yet resumed his seat. His slender and diminutive form was enveloped in a flowered dressing gown of rich materials, and too comfortable in its appearance to be of other than Parisian make. The crown of his large, beautifully-proportioned head was covered by a skull-cap of black velvet. From beneath it strayed a few, thin, snowy locks, which clustered about his noble forehead, and spoke of the advanced age, which the lingering freshness of his florid complexion seemed to deny. His eyes were dark, deep set, glittering, and full of animation. As he greeted me, he removed from his mouth a long painted pipe, the bowl of which nearly reached to his knees. But after the first salutation it was instantly resumed; as I was apprized by the volumes of blue smoke which began to curl about his head, as though to veil it from my injudicious scrutiny.

Madame Hahnemann gracefully expressed her gratification at the perusal of the letter, read a few lines of it to her husband in an undertone, and made several courteous remarks to me; while the doctor bowed, without again removing his long pipe. It was evident that he did not immediately recognize Dr. Hirschfeldt's name; and he was too much accustomed to receive letters of introduction to pay any attention to their contents.

Madame Hahnemann placed herself at the desk, with the doctor on her right hand and myself on her left. I stated the principal object of my visit, attempting to direct my conversation to Hahnemann, rather than to his wife. But I soon found that this was not *selon la regle*. Madame Hahnemann invariably replied, asking a multiplicity of questions, and noting the minutest symptoms of the case as fast as my answers were given. Several times she referred to her husband, who merely replied with his pipe between his teeth, "*Yes my child,*" or, "*Good my child ; good.*" And these were the only words that I as yet had heard him utter.

After some time spent in this manner, Madame Hahnemann accidentally asked, "Where was your friend first attacked?"

"In Germany," I replied.

Hahnemann had been listening attentively, although he had not spoken. The instant I uttered these words, his whole countenance brightened as though a sunbeam had suddenly fallen across it, and he exclaimed in an animated tone: "Have you been in Germany? You speak German don't you?" The conversation had hitherto been carried on in French, but the ready, "Certainly," with which I answered his question, apparently gave him unfeigned pleasure.

He immediately commenced a conversation in his native tongue inquiring how I was pleased with Germany, what I thought of the inhabitants, their customs—whether I found the language difficult—how I was impressed with the scenery, and continuing an enthusiastic strain of eulogium upon his beloved country for some time. Then he asked from whom was my letter. When I pronounced the name of Doctor Hirschfeldt, which he had listened to so coldly before, he expressed the deepest interest in his welfare, and spoke of him with mingled affection and esteem.

I was too much delighted with the doctor's animated and feeling remarks to change the topic. Yet I felt that he had lost sight, and was fast inducing me to do the same, of the primary object of my visit. Madame Hahnemann, however, though she smiled and joined in the conversation, had not forgotten the host of good people who were taking lessons of patience in the ante-chambers. She finally put an end to the discourse by a gentle admonition to her husband; warning him that he must not fatigue himself before the hours devoted to business were half spent. Turning to me, she apologized for the interruption, saying that they received their friends in the evening, and would be happy to see me, then immediately resumed the subject of my friend's indisposition.

After a few more inquiries, I received some medicine from her hands, with especial directions concerning the manner in which it was to be used. She also presented me with a paper, on which the different kinds of food, vegetables, seasoning, and odor, which counteracted the effects of Homœopathic remedies, were enumerated. After cordially shaking hands with the kind old man and his talented and exemplary wife, I bade them good morning. One of the domestics in attendance conducted me down

stairs, and handed me into the carriage; and I drove home, passing along a file of coaches, stretching from Hahnemann's door rather further than I could venture to mention and expect to be believed.

The favorable impression I had received on my first interview with Doctor and Madame Hahnemann, was subsequently strengthened and confirmed. Hahnemann expressed the same enthusiasm as before, at the mention of his own country, and on hearing that I was an American, made many inquiries about our young land, and especially concerning the progress of homœopathy. I could not, however, give him much information which he had not previously received from other lips.

Hahnemann, amongst his innumerable estimable qualities, possesses that of the most indefatigable industry. The pains which he takes in studying and examining a case, are almost incredible. He records with precision the minutest symptoms of every patient, all constitutional ailments, hereditary taints, and numerous other particulars; never trusting his memory, and only prescribing after a deliberation often tedious, though always necessary.

To the poor he has ever shown untiring benevolence. Certain hours of the day are set apart for the reception of persons unable to offer compensation. They are attended with equal care, their symptoms recorded, and their diseases prescribed for with the same precision which is bestowed upon the *haute noblesse* of the land. It frequently occurs that Hahnemann is so fatigued with his morning duties, that patients, who apply for advice in the afternoon, are placed under the sole superintendence of Madame Hahnemann. But they seem to consider this gifted couple one in skill, as they are indeed one in heart.

Hahnemann appears to take pleasure in confessing to the world his affection, almost veneration for his wife. Shortly after his marriage, in a reply to the Gallican Homœopathic Society of Paris, who had made him their honorary president, the following paragraph occurs. "I love France and her noble people, so great, so generous, so disposed to rectify an abuse, by the adoption of a new and efficient reform. This predilection has been augmented in my heart by my marriage with one of the noble daughters of France, in every respect worthy of her country." The letter concludes with the following beautiful sentiment: "Blind as many still remain, let us render them a service despite their repugnance. In course of time we shall receive their benedictions; for our principle, like sunlight, is one of the most prominent truths of nature."

The manner in which he first discovered that principle is singularly interesting. And a slight sketch of history will show whether or not we should look upon him as a misguided and senseless visionary. Samuel Hahnemann was born in 1755, at Meissen, an obscure town in Saxony. His father's means were limited; but young Hahnemann's talents and fondness for study so early developed themselves, that his parents made unceasing efforts to procure him a liberal education.

When quite a youth, he supported himself at the University of Leipsic, by translating medical works from the English, and other languages into German. He practised two years in the hospitals of Vienna, where he won considerable celebrity. After this, at Hermanstadt, he was physician, librarian, and superintendent of a museum of coins, to the house of Baron Von Bruckenthal, governor of Transylvania. He obtained his degree as Doctor of Medicine in 1779. After residing in different cities for ten years, he settled in Leipsic. He there sedulously applied himself to the study of medicine, chemistry, mineralogy, etc., besides continuing to make translations from various foreign languages. The discoveries he made soon obtained him a high reputation amongst medical philosophers on the continent. But the more he studied, the more dissatisfied he became with the usual mode of medical treatment. He lamented its uncertainty, and regarded it as a mere science of guesswork, not yet regulated by positive laws.

His attention was first directed towards homœopathy by observing that cinchona, or Peruvian bark, which is a specific for certain forms of intermittent fever would produce symptoms singularly analogous to those which develop themselves in that fever, when the medicine is administered to a person in health.

He then tried the experiment upon himself, and experienced the severest symptoms of intermittent fever. Surprised and delighted at this valuable discovery, he enthusiastically applied himself to making experiments with numerous other medicinal substances, and found that they produced symptoms of various diseases. The question then presented itself to his mind, whether the most efficacious method of healing diseases did not depend upon the principle, *similia similibus curantur*, or "the application of remedies for the cure of symptoms similar to those which the same medicines produced on a person in health."

He determined thoroughly to test *upon himself* the truth of this system, which might prove of much inestimable benefit to mankind. With unwavering firmness he underwent the most excruciating suffering, however, which were hailed with joy, because they inspired him with the hope, that he was at last possessed of the means of making medicine an actual science. He induced many of his friends, who were sufficiently enthusiastic to become "martyrs to science," to submit to the experiments he had tried upon himself. He found the same effects invariably resulting from the use of particular medicines. He also learned, in searching the records of ancient and modern medicine, that the operation of medicines designated as *specifics*, developed and confirmed this wonderful homœopathic law. For instance, sulphur, which is a well-known specific for some forms of scrofula, when taken by persons in health, produced cutaneous eruption. Several narcotics called forth symptoms of mental aberration, bearing a striking resemblance to those which they are celebrated for curing. Musk, which is a specific for a particular form of asthma, occasioned a spasmodic suffocation. Arsenic, which is used in

cases of cancer, produced a state resembling that disease. Burns are relieved, as every body knows, by the application of stimulating remedies, such as spirits of wine, turpentine, etc. A frozen limb is restored by being plunged into ice-water.

Hahnemann gave to his system the name of homœopathy, from the Greek *homoios*, similar, and *pathos*, feeling or suffering.

At the time he became acquainted with these remarkable truths, he was enjoying an extensive medical practice in Leipsic. He was exceedingly cautious in introducing his new system to his patients. He noted down and studied their most trifling symptoms, selected the medicines, and prepared them himself with the utmost care. On administering them he was amply compensated for his pains, by observing that cures much more rapid and far more certain than he had hitherto been able to effect, were the result of their steady use.

Hahnemann's next discovery was the importance of the quantity or size of the doses. In explanation of this, I quote the following passage from a life of Hahnemann, by Dr. Hull, one of the most intelligent and experienced of his disciples in New York :

"He observed that medicines, even in fractions of a grain, if homœopathically indicated, frequently produced an aggravation of symptoms that demanded the intervention of an antidote. To obviate this objectionable effect, he conceived a peculiar mode of diluting remedial agents, which divests them so much of their specific power to increase, while it augments the power to extinguish diseases, as in the older method, has been found productive of so much danger and suffering. A knowledge of such a result, prompted conscientious allopathists to inquire of themselves whether the violent forms of disease, the broken and wasted constitutions, and even lingering deaths, which had occurred so often in ordinary practice, were not more attributable to large doses of medicine indicated homœopathically, than to the manifestations of illness itself? The rejection of allopathia by many who pursued the inquiry requires no comment."

During the year 1800, when the scarlet fever raged epidemically in Germany, Hahnemann contributed a most invaluable addition to his system in the use of *prophylactics*. It originated in his observing, that the skin of children, who were poisoned with the berries of *belladonna*, was covered with an eruption similar to that usual in scarlet fever—also that they exhibited several other symptoms corresponding to those, which developed themselves in attacks of the epidemic. He applied belladonna to the cure of scarlet fever with great success. The reflection that *vaccine*, which is so extremely analogous to small-pox, served as a preservative against the latter, suggested in his mind the possibility of belladonna's proving an equally certain preservative against scarlet fever. Numerous experiments soon established the existence of its prophylactic power. At the present day it is very generally used in Germany as a safeguard against this fatal fever, both by allopathists and homœopaths.

Hahnemann keenly felt the greatness of his responsibility in promulgating a new system, which dealt with human lives ; and the accuracy necessary in the preparation of homœopathic remedies induced him to restrict himself to the use of medicines prepared by his own hands—practically as the interest of apothecaries made them at variance with his system. The celebrity which he gained by performing some extraordinary cures upon persons of eminence, excited the envy and animosity of allopathic physicians to such a degree that they openly persecuted him. Medical men united with apothecaries in their violent opposition. They discovered an obsolete law, which imposed heavy penalty upon physicians who attempted to dispense medicines, conferring an exclusive monopoly upon licensed apothecaries. This law, the enemies of Hahnemann attempted to carry in force against him. It reduced him to the necessity of relinquishing a lucrative practice unless he chose to endanger the advancement of a system of medicine which he firmly believed to be the safest and most beneficial one. He could not conscientiously consent to risk the lives of his patients by trusting the preparations of powerful medicines to careless and uninterested persons. He therefore abandoned Leipsic, and repaired to Coethen, in 1821.

The Duke of Anhalt Coethen became his friend and patron ; and he was not only permitted to practice upon his own system, but enjoyed the titular distinction of Counsellor of State. Thus he was permanently placed beyond the reach of his petty persecutors.

Hahnemann resided fifteen years at Coethen, prosecuting a brilliant career, and honored by the highest patronage. After the first seven years he published a work of four octavo volumes, on chronic diseases. He was continually perfecting his system by a series of experiments upon his friends, many of them of the most painful nature. His fame soon spread over Europe. At home he met with the most encouraging success ; and patients of rank from abroad travelled thousands of miles for the sake of consulting the revered father of this extraordinary science.

Hahnemann, when he married the second time, was induced by his wife to leave Coethen, and take up his residence in Paris, not, however, to increase his already oppressive celebrity, but to obtain repose. He arrived in Paris incog., not permitting even his most enthusiastic disciples to become aware of his neighborhood. After residing a short time in the utmost privacy, his retreat was accidentally discovered. From that time, his doors were thronged from morning until night ; and but for the assistance of his gifted wife, he would have been unable to endure the fatigue to which he was daily subject. He was complimented at once, by royal grant with the full privileges of medical practice. Those who have experienced the benefits or evils of his mode of treatment, can best answer whether the practice should be hailed as a blessing to mankind, or denounced as prejudicial to the well-being of the human species.—*The North American Journal of Homœopathy*, January, 1912.

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THE VALUE OF BAROMETRICAL OBSERVATIONS IN MEDICAL PRACTICE.

BY DR. T. W. BURWOOD.

I think I owe an apology for presenting the subject matter of this paper to this assembly constituting the "International Homœopathic Congress" of 1911, as it formed the basis of a paper I read at the Homœopathic Congress in London in 1878, entitled "The Barometer as a Factor in Medicine." Several of my colleagues, however, urged me to do this, as the subject was one of unique interest and not generally known.

The inspiration, of which this is the outcome, has been invaluable to me for nearly thirty years, and arose in this way. I had been the regular medical attendant on an elderly bachelor whose name was well known. He had been my patient for several years, whenever he needed a doctor, and I flattered myself I knew everything about him from the crown of his head to the soles of his feet. He had enjoyed most excellent health, having had no serious ailment since childhood. His habits were those of an English gentleman, and until a few months before his death, he might have been seen taking his usual morning canter in Rotten Row. Latterly he had shown signs of œdema in feet and ankles, from cardiac weakness; there was no valvular trouble though some dilution was evident. There was no

albumen in his urine,—his condition at this time might have been summed up in the words “Anno Domini,” he being eighty-four years of age.

I had paid him my daily visit about 6 p.m. On a Friday evening I found him as jocular and jolly as usual. His pulse, temperature and respiration were normal, and other symptoms quite satisfactory. To my great surprise, when I called about the noon next day, I found all the blinds drawn down, and my patient passed away. On enquiring of his nurse attendant, who was a conscientious woman of experience, she said “he had gone to bed as usual, getting off to sleep soon after 10 p.m., but awoke soon after one o’clock, complaining of breathlessness, his pulse being very fast and irregular, this went on until he gradually became pulseless, quietly breathing his last just before six o’clock, about six hours after first awaking, being conscious to the last.” Yet, when I had left him the previous evening I told his niece, who lived with him, I considered the condition satisfactory—and now, within twelve hours, he was dead!

I naturally felt my position acutely, lest the family might think I had not grasped the situation, and that consequently my reputation might be endangered—this happily, however, did not occur.

During the remainder of the day I turned over in my mind every possibility that could have arisen, but all my cogitations failed to unravel the mystery.

Taking up the *Globe* evening newspaper that day after dinner, my attention was drawn to a large typed heading “Terrible Gale, Church Spires Blown Down, &c.,” which led me to wonder whether that had anything to do with my patient’s sudden demise. I at once put myself in communication with the “Meteorological Department,” asking them to forward me the daily charts for the previous six weeks, which they did. I was not a “Meteorologist,” nor am I now, but the facts are these: for five or six weeks before my patient died the weather had been what is termed “Anti-Cyclonic.” The daily charts published during this period indicated that the barometer had stood

between 30.2 and 30.8 for nearly six weeks. That about midnight on the date of my patient's death there was a sudden fall, the mercury dropped to 29.1, and before the gale had blown itself out, had fallen to 28.5.

Perhaps it may be asked what does all this mean? I am not going to occupy your time by giving a lecture on the barometer; we all know what that scientific instrument is, while few look at it as it hangs in their entrance hall except to tell them what the weather for the day is likely to be. To me it is that and also a great deal more.

When the barometer stands at twenty-nine inches at sea level the atmospheric pressure represents fifteen pounds to every square inch; consequently, when the mercury stands at thirty inches there must be more than fifteen pounds to the square inch, and more so still as the mercury is forced up to nearly thirty-one inches, which latter point I have only once seen in twenty-eight years' daily observations morning and night.

Professor Darwin, in his article on "Earthquakes," published in February, 1887, in the *Fortnightly*, says, "It is found that earthquakes are indubitably more apt to occur when there is a *rapid* variation of the pressure of air, indicated by a rise or fall of the barometer, than in times of barometrical quiescence, and the connection between barometric variations and earthquakes should make us reflect on the forces brought into play by the rise and fall of atmospheric pressure."

He goes on to say, "the barometer ranges through fully two inches; hence, when the barometer is very high every square foot of the earth's surface supports 140 lbs. more than when it is low, and 140 lbs. to the square foot is 1,800,000 tons to the square mile."

Under these conditions, it must not be forgotten, the atmosphere around us has consequently more oxygen compressed into the same area.

What then happened to my patient on this sudden fall? My explanation is his aged heart had been beating strenuously for some weeks against all this pressure, and when it was

suddenly taken off—like a horse going up hill with a heavy load behind him, finds the traces suddenly broken, he gallops away free—the heart's action increased in frequency, the loaded heart and lungs became oppressed, a clot was gradually formed in the cardiac cavities, and soon life became extinct.

You may have a heart bounding and thumping away, driving its blood with increased violence through the cerebral vessels, and should there be a weak atheromatous spot, cerebral apoplexy is the result, and your patient who goes to bed apparently well, is found lifeless in the morning. This applies to pulmonary and renal hæmorrhages, epistaxis, vertigo, angina pectoris, paroxysmal tachycardia, and many other conditions.

This brings to me an interesting point which has led to frequent discussion, though I have never seen it mentioned in connection with my subject, *i.e.*, why so many deaths take place in the small early hours of the morning? I am inclined to believe the barometer can answer that question.

In one of my visits to Teneriffe, on a New Zealand Shipping Co.'s liner, Captain Greenstreet, R.N.R., a man of great intelligence, who had made observations extending over many years, and every part of the globe, seeing me take out my pocket aneroid, asked me "if I was interested in barometrical charts." I told him I was. He then invited me to his cabin where he unrolled the markings off his "barograph" showing the automatic readings from his aneroid. Among other remarks he said, "that it mattered not in what part of the world he was, there was always a slight and sometimes a great falling of the glass between 3 and 5 a.m.," and my theory is, I think, confirmed thereby.

I am sure in this assembly of medical talent, many of my *confreres* can call to mind patients so sensitive and susceptible, that before getting out of bed in the morning they can tell you the wind easterly, while others who may not be affected by east wind, will assure you there is going to be thunder, and you may rely on their prophecy being fulfilled.

In these cyclonic disturbances it matters not from whence the

disturbance comes, N., S., E. or W., or any of the thirty-two points of the compass, the effects are the same.

That there are people having what I term "meteorological susceptibility," I can prove by numbers of my patients, who at my suggestion keep an aneroid in their bedrooms, which, by daily watching, regulates their actions and mode of life accordingly.

My friend, Dr. Reed Hill, when he was living with me, was so aware of this fact, that if he were disturbed in the night by a gale of wind, he would say during breakfast, "We shall have a telegram directly from Mr. B.," and surely enough, before noon that telegram came. Or he would say, "We must look after Mr. So-and-So's heart while this gale continues," and we invariably found it necessary, for the patients had had restless nights, with wakefulness and palpitation, which nothing could account for.

Some years ago I was attending an elderly lady suffering from bronchitis and a weak heart. During the course of her illness the barometer ranged very high, and on coming downstairs after visiting her, I was met by the patient's son-in-law, a retired judge, who enquired how my patient was going on? I replied, "She is going on as well as she can, and as long as the barometer stands as high as it does there is no immediate danger, but if there should be a sudden fall we may expect disaster." In less than a week the mercury suddenly fell in the night, and on going to the house next morning, I enquired of the footman how my patient was, and was told "she had had a restless night," and on reaching her bedroom I found the family watching her breathe her last.

That same morning, between five or six o'clock I was summoned to see an old lady over eighty years of age, who had a bad attack of dyspnoea, palpitation and diarrhoea, and who died shortly before nine o'clock the same morning.

That same afternoon, about three o'clock, the public were shocked with the news of the sudden death of Sir Stafford Northcote, at the Foreign Office.

It may be interesting to the members of the Congress if I recall to them the sudden death of Archbishop Benson, in Hawarden Church, which took place during a hurricane and a rapidly falling barometer. The sudden death of the late Mr. Moberly Bell, of the *Times*, took place amid similar circumstances. I can assert, without fear of contradiction, that after a sudden rapid falling of the glass, if you consult the obituary of the morning papers, you find notices have the word "suddenly" inserted in them.

In the spring of 1887, there were several letters in the *Lancet* from medical men, asking if any of their *confreres* could account for so many calls to patients suffering from diarrhœa, the attack coming on on a certain Saturday. The same enquiry was repeated in the issue of the following week. I may say in passing I looked for replies, but none were forthcoming.

On this same Saturday, when I went home to luncheon, I found a telegram from a patient I had recently taken to Brighton, and before finishing my meal I had another from a patient in Essex, and a call to visit a third in Acton, and a fourth in Hanwell, all of them with sudden attacks of diarrhœa. For the next few days I was kept busy with fresh cases, all of which dated their ailment from about midday on Saturday; some were men, some women, all under different conditions as to health, locality and age. I consulted the charts off my barograph, and I found for three weeks previously the weather had been *anticyclonic*, the barometer standing from 30.2 to 30.6. On Friday evening the glass showed signs of downward movement, and by midday on Saturday had fallen to just above 29 inches, a strong S.W. gale had come into activity, and with it quickened circulation, more blood was driven through susceptible livers, more bile thrown out, peristaltic movements increased; and in all these cases *Mercurious cor.* held the trouble in check.

Another instance in connection with this sudden alteration in atmospheric pressure occurred during one of my summer holidays in Switzerland. I was staying with my wife and one of my daughters at Engleberg (3,314 feet above sea level), and

at the same hotel I found a well-known West-End physician, who had arrived twenty-four hours before we did. We hobbled together and sat at the same table. On the third morning after his arrival he came to me after breakfast, asking me to prescribe for him for an attack of diarrhœa. On enquiring, he said "they" had given him bad salmon on the day of his arrival, and this had upset his always sensitive liver. Others who sat at the same table and partook of the same fish were not affected. My friend said he had taken rhubarb pills to no purpose, so he asked me what he should do. I said, "leave physic alone, eat as usual, and drink only brandy and water with your meals until the bowels are quiet."

I asked him how long he had taken to get from Harley Street, and whether he had rested *en route*. He said, he had left Charing Cross at 11 a.m., and in the afternoon of the following day reached Engleberg. I suggested he should give the fish the benefit of the doubt, and that diarrhœa was most probably due to his *rapidly* rising to the elevation at which he now found himself. I told him had he quietly stayed twenty-four hours in Lucerne, which is only 1,437 feet above the sea, and accustomed his heart to the altered pressure, the chances were he might have been very different. When I explained to him the reason of my diagnosis he was much surprised, as such a thing had never entered his mind.

Many visitors to Switzerland, to whom time is precious, rush away from London to find themselves in Alpine heights before they hardly know where they are, and consequently are frequently attacked by the "*maladie de montagne*," which natives seldom experience.

Some years ago I had a lady, the widow of a clergyman, under my care, who consulted me for attacks of cardiac irregularity, palpitation and dyspnœa. She had no cardiac lesion and there never appeared to be any reason, as far as she knew, for these attacks, which were very distressing to herself and alarming to her family. On one occasion I was sent for, and found her with a tumultuous, irregularly throbbing pulse, and

in much distress. The attack commenced in the early morning, and when I arrived about noon she was exhausted, and looked it. During this time we were passing through an equinoctial gale. I at once administered a few drops of brandy on the *similia similibus* principle, and gave injunctions as soon as the breathing was easier and the heart's action quieter to stop the brandy, and in future, when these attacks came on, to watch the barometer, and to give small quantities of stimulants only on a *falling glass*. One tempestuous Sunday morning, some weeks after the last visit, I was passing her house, and casually dropped in to see how the then atmospherical disturbance was affecting my old lady. I found a messenger had been already sent for me, but I had left home before his arrival. I was met at the door by one of the daughters, with tears in her eyes and almost choked with her sobbing, saying, "Oh! Doctor! you are only just in time!" I hurried upstairs, where I found the bed surrounded by members of the family, all weeping. The patient was in a state of loquacious delirium, saying she "was so happy, so happy," and with clasped hands and wide open eyes, saying she "was seeing angels ascending and descending." I enquired how long this had been going on, and was told she had awakened about five a.m., very distressed as usual, and had been "rapidly sinking" ever since. Her pulse was most regular and full, about 120, and not in the least what I had observed on previous occasions. I enquired how much brandy had been given. A bottle of Martell's XXX. was shown to me, the contents of which except a little at the bottom, had been given since she awoke. I calmed their fears, telling them there was no need for further stimulant for the next twenty-four hours at least, and that at the end of that time she would probably be her usual self. Needless to say, the angels all disappeared, and on my visit the following day she had recovered from her inebriation which her too fond daughters had induced. The family eventually left the neighbourhood and I lost sight of them, but several years after I met one of the sons in Trafalgar Square, who told me, in answer to my enquiry, that his mother died

of senile decay, finally expiring during an equinoctial gale in the previous spring.

Another condition which I have almost invariably found affected by sudden lowering of atmospheric pressure is *purpura hæmorrhagica*. Mrs.—, a lady nearly sixty years of age, had been subject to *purpura*. She always knows when she is developing purpuric spots by the local pains, and these attacks are always more present during the period of a *rapidly falling* glass. On one occasion she became suddenly deaf in one ear during a gale of wind, and when I saw her I diagnosed hæmorrhage in the tympanum, which was confirmed by a West End aurist of great repute. In the summer of that year she took a house in an elevated position in the Lake District. Almost as soon as she arrived she suffered with palpitation, and a fresh accession of spots. When she had become accustomed to the elevation, her cardiac action resumed its equilibrium and the remainder of her visit was happy and free from unpleasant symptoms, unless a gale of wind suddenly arose. This patient has since developed malignant disease of the right breast, and on two occasions she has had hæmorrhage during a storm.

One often sees patients suffering from vertigo and noises in the head, who will tell you that the degree of severity differs very much.* Some days very little, on others quite unbearable. If you suggest to them to watch the indication of the aneroid they will tell you they are always better on a rising and worse on a *falling* glass.

Another class of cases has interested me much, and that is epilepsy. I have often been astonished at the coincidence of epileptic attacks with rapid lowering of atmospheric pressure. In connection with this, I was surprised to find the father of one of my epileptic patients had made observations for ten years in connection with his daughter's attacks; that she was always well during a rising glass, or a prolonged anti-cyclonic period, •but she always had a seizure when the mercury rapidly fell, and this usually in the early morning hours. Another patient, a sweet lovely little chappie of eleven years, is always more

free from attacks during weeks of anti-cyclonic periods, but recently had nineteen fits in five days on a falling barometer.

On one occasion in November, 1897, one Monday morning at six o'clock, four of my epileptic patients had attacks at the same hour, and this was eighteen hours after my pocket aneroid had registered 31 inches at the end of Hastings Pier, but at the time of their attack the glass had fallen suddenly to 29.5.

I am not at all inferring that all epileptic attacks are due to this cause, for we know that they are not, still, as so many seizures take place in the early morning, I think I am justified in concluding they are often induced by rapid alteration in atmospheric pressure affecting the cerebral circulation.

Another most interesting fact in connection with my subject is, in prolonged anti-cyclonic periods which sometimes prevail for weeks together, there is often at the same time an absence of rain, consequently drains and sewers are lacking water, awhile the atmospheric pressure keeps down and imprisons the sewer gas. Some years ago I demonstrated this in connection with an epidemic of diphtheria.

In studying carefully the meteorological phase of one epidemic, I found the outbreak took place on January 22nd. Five weeks previously, *i.e.*, from the 17th December, a period of thirty-six days, there had been no rainfall at all, consequently the drains and sewers were in more or less state of quiescence. Between these same dates the average daily height of the barometer was 30.30, which showed the atmospherical pressure was of a very high range and spread over a long period. Consequently, when the barometer fell, this great pressure being taken off, the obnoxious imprisoned sewer gases were liberated and escaped through faulty joints and defective valves and traps. Given a long period of high atmospheric pressure, coupled with defective closets and drains, one can predict, with almost a certainty, when the glass falls there will not only be sporadic cases of diphtheria and diphtheritic throats and follicular tonsilitis, but in districts where in numbers of houses the closets, etc., are faulty, there will be in all probability an epidemic of the

disease. If at the time of the fall there is a gale of wind to blow away the miasm all well and good, but if there is little or no wind—or a dead calm, as in this instance—the gases are not easily dissipated.

From what I have advanced, I wish it to be distinctly understood I only find these conditions in the patient on a *falling* glass. A blustering North-East gale may be raging furiously, the glass rising all the time, during which the patient may be delightfully comfortable, but when the storm suddenly subsides and the mercury runs down, it is *then* the patient is distressed.

On a slowly progressive downward tendency of the mercury, the patient may not be affected at all, as he had time to accommodate himself, though unwittingly, to the altered condition he was passing through.

I do not wish my medical friends to infer I consider all diagnoses are referable to alteration in atmospheric pressure. But I do say where every other factor is eliminated and no satisfactory conclusion arrived at as to ætiology, the probabilities are, the barometer will settle the difficulty, especially when the disturbance is functional and not organic.

Now with regard to treatment. This must be carried out in my opinion by each patient having the homœopathically selected remedy to its own individual case, as much care being taken in diagnosing the medicine as in the diagnosis of the disease. In the majority of cases at the time of the attack, brandy, whisky, or either, in small doses will be most beneficial. In the intervals general constitutional treatment claims attention, so as to fortify the patient that he may be able to battle with the trouble to which his peculiar idiosyncrasy has made him liable.

The usual cardiac remedies, all of which are so well known by the members of this Congress, will be found useful. I have found *Arsenicum alb.* 3x, and *Crataegus* 1x most invaluable, and in some cases *Moschus* 12 is a great comfort.

In treating our patients there is nothing too apparently insignificant or beneath our notice.

Climatic conditions not unfrequently claim our attention; we know the *Rhododendron* patient is worse before a storm, and all his symptoms exaggerated in rough weather. The *Rhus tox.* patient is worse in cold and wet weather. The *Ranunculus* patient does not like atmospheric changes and is worse in wet, stormy weather. The *Dulcamara* patient cannot tolerate damp. In the heat of July *Iris* is invaluable for the diarrhoea prevalent in that month, but is not so useful in the winter for similar condition. While *Gelsemium* is undoubtedly of great service to those who are *electrically* disturbed, the *Agaricus* patient's symptoms are always worse before a thunderstorm.

We may have our "key-note" symptoms, but no good homœopath of any experience would fail to consider the "modalities" in summing up the "totality of the symptoms." I would suggest to my colleagues not to ignore the weather glass, which may be a handsome piece of decorative adornment in your hall, or of the pocket aneroid which you can trust equally with your chronometer, but to consult it every morning, as I have done for nearly thirty years to the great advantage of the patients who have come under my care.

Our familiarity with these changes may easily blind us to the greatness of the forces which are so produced, that I am convinced many present, if they will take the same trouble and interest in it as I have done, will be equally satisfied.

Though there may not be much to enlist the interest, of this International Homœopathic Congress in what I have advanced, I can only say I have found it extremely useful from an *ætiological* point of view, as well as a help in *diagnosis* and *treatment*, and of great benefit to my patients.—The *Homœopathic World*, February and March 1, 1912.

DRUG PATHOGENESIS.

BY DR. E. B. NASH.

The shortest definition of the word pathogenesis is—the origin and development of disease.

There is what is termed natural disease and drug disease. The latter is the subject under consideration. A derangement of any of the vital functions in which their natural action is interrupted or disturbed, and causing or threatening pain or weakness, morbid or unhealthy condition, etc., is Webster's definition of disease.

It is sometimes difficult to tell where health leaves off and disease begins, as much so as where sanity leaves off and insanity (a disease of the mind) begins.

There is no question that drugs are capable of causing such conditions. The history of the abuse of *Morphine*, *Calomel*, *Quinine*, etc., in material doses has settled it.

Toxicology is the science of poisons. That is a stage of drug disease. But there is a stage preceding that we term *Symptomological*. It is the stage that has furnished the field in which the Homœopathic School of Medicine has explored most widely and thoroughly.

When Hahnemann discovered that *Cinchona* cured chills and fever by virtue of its power to *cause* them, his inductive mind instantly conceived that possibly all such really curative action of drugs might come under physiological law.

Investigation along this line corroborated and confirmed such reasoning.

In Hempel's translation of the *Organon* numerous cures were quoted to show that, remedies cured, in accordance with such a law, which he then formulated into *Similia Similibus Curantur*. Now the next important step was, by a system of drug proving, to discover the similarity between drugs and natural disease. Disease had its beginning preceding the stage which we term pathological. Why not drug? To be able to establish this, was to *forearm* the *physician* his battle with disease. To be able to establish correspondence between disease and drug short of poisonous or lethal doses, opened the way for a system of thera-

peutics hitherto unknown. Acting upon this possibility, Hahnemann instituted his system of drug pathogenesis. Applying such provings to the cure of the sick demonstrated the fact that we could restore health to our patients no matter what the name of the disease, or even though we could not name it at all. Indeed, in those cases in which we could not with certainty name the affection, the same rule of correspondence must be observed in the choice of remedy.

Again by this system of choosing the remedy we could discriminate the one remedy most curative from among many, having in a general way similar action. For instance, we choose between *Rheum.*, *Podoph.* *Crot. Tig.* and many others, the one perfectly adapted to the case of diarrhœa. "Canst minister to a mind diseased?" the question asked by Shakespeare, was answered unquestionably in the affirmative. For in these provings were developed immaterial (mind) as well as material effects or symptoms.

Without entering into a description of the process of potentization of drugs, which all understand, it was found that drugs hitherto deemed inert were possessed of wonderful powers both in pathogenesis and therapeutics. One object of this paper is to set forth what after a long life of conscientious painstaking experimentation I believe to be true.

1st. Symptomatology as laid down in our *Materia Medica* is the best source from which to select our remedies.

2nd. That those symptoms which are termed subjective, are of first importance.

3rd. The objective symptoms follow next ; while

4th. Those that are called pathological, important as they may be for purposes of diagnosis, prognosis, hygiene, etc., must take last place for purposes of prescribing. For as Dr. Chass. G. Raue once said, "The symptoms which go to making the choice of the remedy, often lie entirely outside of those which make up the pathology of the case." Let me illustrate by one example. Take a case of typhoid fever. One of the latest and

best authorities gives as diagnostics the Objectives—Symptoms :

- 1st. Peculiar temperature.
- 2nd. Rose rash.
- 3rd. Enlarged spleen.
- 4th. Ehrlich's Diazo re-action of urine.
- 5th. Vidal's serum test.

(Of this Butler says, "A negative result does not *positively* exclude typhoid"; again "finding of typhoid bacilli in blood, urine or fæces, may be useful, but is clinically unsatisfactory and unavailable.")

I quote this old school authority simply because some of our number will estimate it more highly than they would Raue or others.

- 6th. Epistaxis.
- 7th. Early dirotism of pulse.
- 8th. Absence of leucocytosis.

Here is the case from the objective standpoint. What shall we prescribe on these symptoms as a guide? Catchell condenses the remedies from which to choose to seventeen in number. This is certainly not a long list when we consider the longer list of possible remedies that may enter into a case. Then you will notice that in all this list of indications for the choice of the remedies, the above eight objectives are very conspicuous by their absence. Why so? Because we learn again with Raue that the symptoms that go to make the choice of the remedy, lie outside those which go to make the pathology of the case.

The true Homœopathic healer treats his case with *Bry.*, *Rhus.*, *Arsenicum*, or any other remedy, because the symptoms of the patient come within the range of symptoms covered by the remedy in its pathogenesis. No remedy in proving or poisoning ever produced typhoid or scarlet fever. But they have and do cause subjective symptoms that simulate those appearing in so-called disease, and these constitute the "Similia" of the formula of Hahnemann expressing our law of cure. If we do not recognise this, it is dishonest to lay any claim to being a

homœopath. Do we not prescribe *Bryonia* in any stage when there is delirium, especially at night, about the affairs of day, or business matters ; visions especially when closing the eyes ; irritability ; splitting headache worse on motion ; or on opening the eyes ; great thirst for large quantities at long intervals, with dry parched lips ; bowels constipated ; great lassitude and weakness, wants to lie quiet, as movement aggravates all the symptoms ; turns pale or sick at the stomach on rising ; cough with stitches or pains in the chest worse on motion, etc., rather than any of the objective symptoms above-mentioned.

Catchell says again : " In the absence of complications this remedy (for these symptoms) can be relied upon until the time the diarrhœa begins". I say, after more than forty years' observation, that in the majority of cases, if the remedy is not given too low and too frequently repeated, the diarrhœa will never begin. The testimony of all writers of note in homœopathic therapeutics agrees that these symptoms call for the exhibition of that remedy, not only in typhoid fever but in any other disease (so-called) where they occur.

We might go through a long list of remedies in this way : showing that our remedies are generally chosen more in accordance with subjective symptoms appearing in their pathogenesis, than with those corresponding with those that are pathological only. *What does this prove ?* That the symptomatic indications are not founded upon scientific, physiological and pathological grounds ? By no means. Here is just where one object of this paper comes out, for I am fully persuaded, and indeed *cannot see how it can be otherwise*, that every symptom produced by a drug in proving no matter how apparently trivial, has its physiological or pathological interpretation, whether we can give it or not. No one denies the utility of the objective symptoms that form a part, and portion of the patient's condition ; they belong to him, they must be noted and receive all the consideration to which they are entitled ; but objective symptoms, or what is sometimes understood by them, a changed pathological condition of the organs or structures, are not always

present in all cases, and it is often possible that the careful prescriber will so manage his case as to prevent such pathological condition. Wait for it to develop? If a case of typhoid fever runs through an unmitigated course, with all its stages well developed, we may rest assured that we have been of no use to that patient. It would have been better to have left him to the expectant method of treatment than to such bungling. The pathologist only may be all right, in his own way, but we, as homœopaths are not bound by his mode of forming a diagnosis, and as has been often said before, in this particular, we differ from the pathologist only in that *we treat patients* and that our aim is to obtain a full correct picture of the abnormal condition of the patient; while the pathologist must form a diagnosis by the objective symptoms alone, and then be guided by this diagnosis, by a mere name of disease in their treatment. Of what account would the symptoms of *Bryonia* we have enumerated, all aggravated by movement, be to the pathologist? How would the *triangular red tip of the tongue*, the intense restlessness, and aching pains *ameliorated by movement* of *Rhus. tox.*, affect the choice of the remedy with the allopathic physician? Would (the objective symptoms all being present) the presence of great prostration, burning pains, anguish, restlessness, thirst for small quantities, all aggravated at one to three a.m. weigh anything with the prescriber upon objective or pathological conditions for his guide? And how about the delirium in which the patient feels scattered about, or in pieces which he cannot get together, of *Baptisia*, or the intensely loquacious delirium of *Stram.*, the nausea and faintness from the smell of cooking meat of *Colchicum*, and we might go on to enumerate hundreds of such characteristic symptoms which are subjective, having been produced in the provings and which are unexplainable from any pathological standpoint so far as we yet understand pathology. And yet they are well known, and stand out like beacon lights to guide every true disciple of Hahnemann to the homœopathic prescription in any case, no matter what the name of the so-called disease.

I am fully persuaded, after long observation, that those who decry the science of symptomatology are not well enough acquainted with it, or do not apply it according to the plain principles laid down in Hahnemann's *Organon*.

All this goes to show in that the up-building and perfecting of our *Materia Medica*, we cannot stop at the effects on dogs, cats, rabbits or even human beings, with the pathological changes which can be recognised by physical tests only, but must go on in our investigation to those immaterial changes which can only be known through the sensations, mental aberrations and modalities, which are, after all, the most important for the purpose of homœopathic therapeutics. And in conclusion, which line of investigation of drug action, both material and immaterial, must be followed along the road opened by Hahnemann and his co-labourers.—The *Homœopathic World*, December 1, 1911.

REVIEW.

Congenital Dislocation of the Hip. By J. J. Clarke, M. B. (Lond.) F. R. C. S., Demy 8 vo. Pages VIII + 92, Illustrations 55. Price 3/6 net. Bailliere, Tindall and Cox, London.

We congratulate the publisher for having published such an exceedingly useful book. There are nine chapters and the last one deals with a series of forty consecutive cases. The diagrams and the radiographs have fully enhanced the value of the book and in fact without them the book would not have been perfect. We have nothing but praise for this little book which we hope would prove useful to every surgeon.

Aids to Pathology. By Harry Campbell, M.D., B.S. (London) F. R. C. P., Fscp. 8 vo. Pages VIII + 228, Illustrations 18. Price 3/6 net. Bailliere, Tindall and Cox, London.

Aids to Histology. By Alexander Goodall, M.D., F. R. C. P. (Edin) Fscp. 8 vo. Pages VIII + 135, Illustrations 20, Price 2/6 net. Bailliere, Tindall and Cox, London.

Aids to Ophthalmology. By N. Bishop Harman, M.A., M.D. (Cantab) F. R. C. S. (Eng). Fscp 8 vo. Pages VIII + 216, Illustrations 100. Price 2/6 net. Bailliere, Tindall and Cox, London.

The Aids series published by Messrs. Bailliere, Tindall and Cox are very useful. In these days of high pressure examinations there ought to be some safety valves for the poor students. After reading larger text books the students must have some notes before them in order that they may refresh their memory before sitting for the examination. These three aids under review are edited by men who have already got reputation in their respective subjects. Dr. Campbell was a pathologist at the North-West London Hospital and this speaks volumes of him and the little book is really an invaluable help to the poor students in times of need.

Dr. Goodall's book has got all the important subjects in a nicely compact form and no point which is required for the

examination has been omitted. The last chapter on Histological method is a very useful one and every student should refresh his memory by reading this chapter before appearing in any practical examination in histology.

Dr. Harman's book is by itself a text book and any student can pass his examination in ophthalmology by simply reading it. The hundred illustrations have thrown immense light to the little book and have made it very useful.

An Exposition of the Homœopathic Law of cure or A Review of Hahnemann's Organon. By D. N. Ray, M. D., L. S. A. (London) The Elm Press, Calcutta.

This little book from the pen of our veteran Homœopathic practitioner Dr. Ray is an exceedingly interesting one. It is the thought of a highly cultured Hindu mind. The philosophy of medicine has been fully grasped and explained by the author. Philosophy is a thing which is pre-eminently Indian and that an Indian scholar of medicine will deal it most happily there is no wonder. It is our only regret that we could not take up this work early on account of our continued ill health and we offer our sincere apology for this delay. The book has been divided into several chapters and each and every one of them is full of interesting matter. Hahnemann's Organon has been fully discussed and reviewed in the light of modern science—in the light of Opsonic and Ionization theories.

The question of the dose in acute and chronic cases has been fully discussed and explained. A young practitioner will get immense light in this chapter to guide him through the labyrinth of dose questions.

Those who are "seekers after truth" and to whom the book has been dedicated will do well to get hold of a copy and read it for it will amply repay their perusal.

Sexual Ills and Diseases. A Popular Manual. Based on the best Homœopathic Practice and Text-books. By E. P. Anshutz, M. D. Second Edition. Revised and enlarged, 170 p.p., cloth \$1.00. Boericke and Tafel. Philadelphia.

This is the second edition after fourteen years since its first

publication. In this edition considerable additions and revisions have been made. The chapter on treatment has almost been re-written and a small chapter on dosage has been placed before the chapter on *Materia Medica*.

It is very strange that the errors of the first edition have crept in this edition also and that is *Capsicum* and *Ferrum Phos.* have not been mentioned in the list of remedies though these remedies have been considered in the chapter on *Materia Medica*. Under *mercurius* all the four preparations have been considered. This would have been well and good if the different preparations had been considered differently.

This little book will be of considerable help in practice and every practitioner should possess a copy of it.

Leucorrhœa and other varieties of Gynæcological Catarrh. A Treatise on Catarrhal Affections of the Genital Canal of Women; their Medical and Surgical Treatment. By Homer Irvin Ostram, M. D., 179 pages, cloth \$1.00. Philadelphia, Bœricke and Tafel.

In the preface the author says that "many of the minor diseases peculiar to women are associated with disorders of the mucous membrane that lines the genital canal, but we are rather inclined to disregard these affections in favor of operative gynæcology, and for the development of surgical technique. This class of disease, however, merits careful consideration, not only because of its primary importance but on account of its significance as an ætiological factor in more serious maladies." This is indeed very true. Some cases, which might have been well treated by not handling them as surgical ones, have really gone from bad to worse by simple interference. The book is divided into four chapters and in the first chapter the author gives the anatomy of the genital canal together with the physiology of the parts especially involved in catarrh and the function of the mucous membrane. The causes of the gynæcological catarrh have been shown as infection, constitution, mechanics and exanthematous diseases.

This catarrh has been divided under four heads as simple,

mucopurulent, purulent and sanguineous. Their treatment has been given under each head.

The local treatment as has been advocated by the author is good, but we should think too much local interference sometimes makes the case worse. Simple washing with pure cold or tepid water is the best of all and then internal medicine chosen according to the symptoms will act in all cases as a marvel.

The last chapter contains two parts, the *Materia Medica* and the *Repertory* and is very useful.

The book is a very useful one and every physician who has not much time to read will profit by it very much.

International Homœopathic Medical Directory, 1911-12. Edited by J. Roberson Day, M.D. and E. Petrie Hoyle, M.D. (U. S.A). Price 4s net. Homœopathic Publishing Company, London.

Drs. J. Roberson Day and Petrie Hoyle deserve the best thanks of those who practise homœopathy, for having published an *International Homœopathic Medical Directory* (1911-12) which has assumed a considerably big size. It is on account of this and on account of late issue, the directory will remain in force until Easter, 1913.

The authors have regretted that from India they could not get any comprehensive and satisfactory data. This is really a matter of sorrow. In supplying facts for a directory, which will be useful to the public in general, no one should hesitate to come forward with the correct information.

India is a peculiar country where every thing is unique. We shrink to supply even the facts which are useful to all because of too much egoism which makes us blind of the virtues of others. The bogus practitioners in Homœopathy have increased in numbers in India, and the fear of exposure in the search-light of truth is also great and hence no correct information can be had from them or from the regulars who care not to be unfairly criticised by such practitioners. No medical law now exists in India and hence the practitioners of all 'pathies' have become prevalent. Here in India we have got several Homœopathic

colleges but none can be compared with the lowest class colleges of America. The moral aid from the State is a principle thing and it raises the standard of education. Here these colleges are not at all recognised by the Government and hence the education imparted can not be of that higher standard which is possible where a college is under the Government control or whose alumni are recognised by the Government. Our object of telling this is nothing but to give the correct information about our colleges here; and these colleges will be very useful if the Government can be induced to recognise the passed students from such colleges as regular physicians. Of course so long as there is no medical law these students from such colleges will be allowed to practise, but their position will be untenable when the law is once passed.

The book is excellently got up and the seventeen photo-etchings have greatly enhanced its importance and have made it attractive. The price is insignificant in comparison with the matter included and the labour bestowed on it.

We hope every follower of Homœopathy will not fail to get hold of a copy of this book and every Homœopathic Chemist and Druggist will do well to keep a copy on their table for the information of their many customers.

Basanta Chikitsa (a Treatise on the treatment of Small Pox) in Bengali. By Babu Priya Nath Basu, Pages XI+132. Price annas twelve. Gurudass Chatterjee's Medical Library, 201 Cornwallis Street, Calcutta.

This is an excellent treatise in Bengali on the treatment of Small Pox, a fell disease which is dreaded by one and all. The theory of vaccination has been carefully avoided as it leads to hot controversy without any profit.

The author has carefully considered the ætiology of the disease and has given the classification with the symptoms of each variety. The pathology of the disease has been only touched as there is hardly any need of dilation. The chapter on treatment is exhaustive and practising homœopathic physicians will find a great deal of matter for thought and practical application.

Those who are ignorant of English will find it a profitable reading and a great help in their practice.

EDITOR'S NOTES.

Medical School Inspection in England and Wales.

Of the nearly 6,000,000 pupils in these countries who have been inspected, about ten per cent. are reported to be suffering seriously from defective hearing, one per cent. from tuberculosis and heart disease, eight per cent. from obstructions to proper breathing, and thirty per cent. from extensive and injurious dental decay. These figures would indicate a large degree of suffering and inefficiency. Perhaps the most important as well as the most easily preventable evil is the prevalence of disease of the teeth. It is now well established that defective mastication is a serious hindrance to adequate nutrition, and hence to the attainment of normal physical development. The difficulty is greatest in the towns, with their inseparable association of poverty with dirt.—*The Medical Times*, October, 1911.

The Doctor's Degree.

The conferring on the Kaiser of an honorary doctor's degree by Berlin University recalls the fact that the title has fallen from the high estate it enjoyed in other times. In the universities of the twelfth century, at Bologna, Paris and Orleans (which were the forerunners of the German universities) the doctor, whether of law, science or theology, had rank, consideration and privileges that are not now conceded him. In the Middle Ages the doctor was on a footing with the knight and took precedence of the local aristocracy, though lacking the title of nobility. He always wore his hood and gown, and was "maxime reverendus, nobilissimus, experientissimus," etc., etc. He paid no taxes! He could not be troubled with the quartermaster and he had the privilege of having his testimony taken in his own house. During the examination for his degree he was treated with wine and food; and after the degree was conferred, the event was celebrated by a long drawn out banquet. Gradually the nimbus around the doctor's head faded; and at the time of the Reformation, Luther, himself a doctor, complained of the change that had taken place.—*The Medical Times*, October, 1911.

Bromide Intolerance and Bromide Poisoning.

L. Casamajor (Jour. Nervous and Ment. Dis., June) warns that the toxicity of the bromine salts is oftentimes overlooked. They may excite delirious states. No weak or anemic patient should receive even small doses without a full realization of the danger; in such cases the use of the bromides as local sedatives is contraindicated. Thick-tongued speech, bromide breath and psychic dullness are the poison symptoms, upon the appearance of one or the other of which the drug should be discontinued and large doses of sodium chloride given to replace the bromide; this with vigorous elimination should prevent the drug intoxication.—*The Medical Times*, October, 1911.

Luminous Bacteria,

Barnard, in *Knowledge*, includes careful direction as to how the light producing bacteria may be obtained and grown. These emit light that is produced entirely by themselves, independently of any extraneous light source; in fact, they grow and produce light better if kept entirely in the dark. Their efficiency as light-producers is extremely high, and were it possible to carry out on a commercial scale the process of light production as it occurs in bacteria, a tremendous step forward would be taken. The natural habitat of these germs seems to be almost exclusively sea water—or at least such water as is found in estuaries where an appreciable quantity of saline matter is present. The most easily procured organism of this group is the *Photobacterium Phosphorescens*, which may be got from a dead herring or a mackerel.—*The Medical Times*, October, 1911. .

Anointing.

Anointing, states the *British Medical Journal*, is no inconsiderable part of the coronation service; it would be even more correct to describe it as more important than the crowning itself—more important, that is, from the inner and significant aspect of the ceremony. As part of the coronation ritual anointing was introduced into England in 871, when King Alfred came to the throne, and into Scotland in 1097, when King Edgar was crowned; it now forms the culminating point in the solemn spectacle enacted in Westminster Abbey when a new monarch comes to rule as King of the United

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Kingdom of Great Britain and Ireland, and of the British Dominions beyond the Seas. Anointing has a long history behind it having probably originated in pre-theistic and even pre-fetish times.—*The Medical Times*, October, 1911.

Criminality is Not a Natural Result of Illiteracy.

Criminality is not a Natural Result of Illiteracy, since it does not follow that because a person knows how to read and write he is less apt to commit a crime. Such is the opinion of Signor Calojanni, a Sicilian investigator, who has sought to confute the axiom of the jurist Filangieri, that when a school is opened a prison is closed; the former points out that although in the last fifty years many schools have been opened in Italy not one prison has yet been closed—in fact the number of prisons has greatly increased and they are overcrowded. Mortara has analyzed the statistics of illiteracy and criminality during the last five years and shows that crime increases in those Italian provinces where the proportion of illiterates is greater. In fact, in Sicily where only 201 in every 1,000 can write, the proportion of criminals amounts to 2,017 in 100,000 of population; whereas in Piedmont, where there are 177 illiterates in every 1,000, the proportion of criminals is only 849 in 100,000 inhabitants. Mortara admits that civilization causes the increase of such crimes as forgeries; but, on the whole, finds the advantages of education are undeniable and that illiteracy should not be encouraged.—*The Medical Times*, October, 1911.

The Suicide Increase.

The Suicide increase in Russia is such that the medical faculty has been searching for remedies of what might well be termed an epidemic of self-destruction; the frequency of suicidal tendencies among school children is of especial concern to educators and physicians. 125 suicides among boys and girls of tender age were reported in three months. Professor Charkotin found various causes for these suicides—resentment of fancied wrongs or slights, fear of punishment or of failure at school, derision by school fellows, unrequited love, and so forth. The age of these youthful suicides begins at 3½, at which life-period a boy hanged himself: this was surmised to be an accident; but Dr. Koraschke, who made a close investigation into the circumstances surrounding the affair, found it a genuinely

premeditated suicide. In Germany the distribution of the Easter school certificates was marked by a series of schoolboy suicides; and on this circumstance the famous pedagogue, Dr Ludwig Gurlitt, founds an apprehension that there is something radically wrong about the vaunted German educational system which causes this dreadful sacrifice of young lives, a state of affairs unapproached by any other European nation except Russia. Schoolboys seem to play with the suicide idea—an unhealthy symptom: At Osterode the Latin school students made a life-size dummy wearing a cap with the college colors, hung it on a tree in front of the school house, and nailed to this tree a letter to the effect that so and so “had hanged himself because he was not promoted this Easter.”—*The Medical Times*, October, 1911.

Fruits in the Diet.

This truly magistral essay by Marcel Labbe, in the *Paris Medical*, 10 June 1911, opens with a study of the qualities and kinds of fruit, which are divided as: 1. aqueous acidulous; 2. sweet, either moist or dry; 3. oily, fatty or starchy. This, says Labbe, is the schema of Prof. A. Gautier, while in culinary art there are recognized four red fruits: the strawberry, the cherry, the red-currant, and raspberry; and four yellow, as the orange, the lemon, Spanish or Seville orange, and citron or lime.

1. The aqueous acidulous fruits are many: plums, pears, grapes, apples, red-currants, lemons, limes, citrons, oranges, strawberries, melons (here the writer placed bananas, we would class the banana anywhere else).

This group is composed of proteid as albumin from 0.25 to 1.5 grams per 100. Fat about one per cent. of total weight. Water constitutes their bulk, and the sugar may amount to 25 per cent, as in grapes, while in citrons it is as low as 1 per cent.

The sort of sugar varies:

Fruit	Dextrose or Glucose	Levulose	Saccharose
Grape	x	x	0
Apples	x	x	0
Pears	x	x	0
Melon	0	0	x

Gums are present, and exercise a favorable action upon the respiratory mucosa. Dates, jujubes, figs and raisins are in the group of gum-bearing fruits.

Acids are found. Malic, citric and tartaric, united with potassium. This causes the sour taste of a fruit, and its diuretic action.

Minerals, such as potassium, act as tissue activators, heart stimulants and diuretics, while manganese acts as a fermentative accelerator, and is present in lemons, limes and grapes. Iron is found in strawberries, and in some grapes. Iodine exists in grapes, according to Gantier and Bourcet.

The dry and sugary fruits, such as dates, figs, prunes, and raisins, contain often 80 per cent. sugar.

The oleaginous fruits are : almonds, nuts, olives, chestnuts, walnuts hazelnuts, and contain 16 to 24 per cent. albuminous matter and about 54 to 62 per cent. of lipoids or fatty derivatives. They have about 15 per cent. carbohydrate elements. The chestnut contains 40 per cent. starch.—The *Medical Times*, October, 1911.

Cremation in Prussia.

It is probable this mode of disposing of the dead, which has previously been bitterly opposed by the Clerical party as being an un-Christian practice, will soon be legalized in Prussia, the Diet having recently passed the second reading of the government's bill in its behalf. This attitude of the government regarding cremation shows a complete change, the suggestion of it having heretofore been repeatedly opposed by those in power.—The *Medical Times*, December, 1911.

Jewish prescriptions with regard to food.

Jewish prescriptions with regard to food had best be copied by the English people, especially in town—is the advice recently given by Dr. Allison, an English authority on food values. It is this race which is practically immune to tuberculosis ; and Dr. Allison maintains that it has survived through many centuries of oppression because it was the best fed race on earth. Jewish mothers were greatly to be commended for bringing their children up on fatty foods. Another dietetic note is furnished by R. A. Sampson in the *Fortnightly Review*, to the effect that "perfect fruit alone can stimulate the intellect, perfect fruit alone can control the feverish activity of the arterial pulsations, which otherwise, engendered by the consumption of inflammatory foods and drinks, wear out the human machine long before its natural time."—The *Medical Times*, December, 1911.

Sleep for Children.

The Western Medical Review (May, 1911) finds that writers on this subject, while agreeing in the main as to the efficacy of sleep as "nature's sweet restorer," still believe that too much sleep is harmful, and that most people sleep too much for their health. The views of these writers, especially with regard to young children are that even infants at the breast are allowed too much sleep; that they need not only time to sleep, but time to wake if their intellect is to be awakened. The tendency to sleep shown by children and the uneducated is explained on the ground that their psychic world is so poor that it is almost impossible for them to take any interest in their own thoughts and ideas. It is considered that even during the first four or six weeks of life there ought to be two waking hours during the day, the waking time to be increased as the baby grows. All methods of putting children to sleep artificially by means of monotonous sensations are strongly censured, including the crowing of lullabies and the rocking of babies in cradles or simply in the arms. The latter procedure is said to produce sleep partly because consciousness is fatigued by a series of monotonous sensations and partly because at the same time artificial anemia of the brain is induced. The approximate period of sleep necessary for children at different ages is given: between one and two years from 6 to 8 waking hours; two and three years, 7 to 9 waking hours; three and four years, 8 to 10 waking hours; four and six years, 12 to 14 waking hours; nine and thirteen years, 14 to 16 waking hours.—The *Medical Times*, December, 1911.

• Gift to the Paris Faculty of Medicine.

The council of the Faculty of Medicine has acknowledged and unanimously accepted a gift of 100,000 francs made to its dean. The donor is a medical man who has preserved the strictest anonymity. The proceeds of the 100,000 francs invested in the State Three per Cents. are to be expended in the best interests of the students of the Faculty of Medicine of the University of Paris. The distribution is to be made yearly, in a lump sum or divided, according to the candidature, among students distinguished for their devotion to patients as shown by conduct in epidemics or on missions; students distinguished in medicine by discoveries, invention of clinical or laboratory methods, &c.; poor and deserving students to whom exhibitions are to be given to defray the expense of curriculum,

examinations, instruments, apparatus, journeys of scientific education in France or abroad, and so forth.—The *Lancet*, January, 20, 1912.

Meat Shrinkage in Cooking.

A recent consular report calls attention to the tests at the London Electrical Exposition which demonstrated that the shrinkage of meat when cooked in a coal range is somewhat greater than that of the same meat cooked in a gas range, and considerably more than when cooked in an electric range. A leg of mutton weighing 8 pounds and 8 ounces showed a shrinkage of 2 pounds and 11 ounces when cooked in the coal range, whereas a leg of mutton weighing 9 pounds showed a loss of 1 pound and 4 ounces when cooked in an electric oven. The shrinkage for the gas oven was 2 pounds and 4 ounces on an 8-pound leg of mutton.—The *Medical Times*, January, 1912.

Sir Thomas Browne and the witch-trials: a vindication.

Perhaps the only place where we meet the name of Sir Thomas Browne without pleasurable associations is in the account of the trial of Amy Duny and Rose Callender for witchcraft before Sir Mathew Hale in 1664. It has frequently been stated, and it is widely believed, that Sir Thomas Browne was responsible for the hanging of these two women. He made a statement in open court which is alleged to have carried great weight with the jury and to have influenced the judge against the prisoners, with the result that they were convicted and hanged. This is the view frequently adopted by writers on the subject. One of Sir Thomas Browne's biographers, Mr. Edmund Gosse, goes so far as to state that the blood of the two women was on his head. It is now suggested in two articles published in the *Norfolk Chronicle* of December 23rd and 30th, 1911, that the facts connected with this trial have been greatly misrepresented, and that the suggestion that Sir Thomas Browne was responsible for the death of these two women is not in accordance with the facts of the case as recorded at the time. Mr. Malcolm Letts in the articles referred to examines the account of this incident as related by Sir Thomas Browne's most recent biographer, and compares it with the contemporary report of the trial (taken in court by the judge's marshal and published in 1682), with interesting results. It is shown that Browne had very little to do with the proceedings. He was present in court, and at any early stage he was appealed to by the judge and thereupon made a state-

ment as to his belief in the reality of every hundred of his educated contemporaries would have concurred, but there is nothing more against him. It is probable that the witches were convicted on the evidence adduced by the prosecution without reference to Sir Thomas Browne's opinion. We recommend all who are interested in the great Norwich physician to read this vindication.—*The Lancet*, January 20, 1912.

Magnesium Sulphate.

Choksy (*Lancet*, Feb. 4, 1911) has been treating erysipelas with external applications of magnesium sulphate, a drug which until three years ago was only used for its effect upon the bowels.

Tucker used it in the Philadelphia General Hospital (*Thur. Gazette*, July, 1911) for the relief of pain in local inflammatory conditions. He was surprised with the results, as the drug not only relieved pain, but eventually cured the inflammation. He found it of surprising benefit in gonorrheal epididymitis, gonorrheal arthritis, orchitis, neuritis, acute articular rheumatism, erysipelas and cellulitis. He also used it by intraspinal, subarachnoid and subcutaneous injections for the relief of spasm in tetanus, and of the lightning pains of locomotor ataxia. Miller treated 11 cases of tetanus with subarachnoid injections with 5 recoveries. The dose is 1 c. c. of a 25 per cent. sterile solution to each 25 pounds of body weight of the patient.

Tucker describes the effect of magnesium sulphate in 19 cases of erysipelas complicated with alcoholism, acute nephritis, myocarditis and pneumonia with only 3 deaths, and also 35 uncomplicated cases with no deaths.

He has used magnesium sulphate in over 700 cases and commends it because it is cheap, easily obtainable, non-toxic, easy of application, gives prompt relief from distressing local symptoms, and causes a rapid and permanent fall of temperature, thereby eliminating possible febrile complications. He only gives a milk diet for the first few days until temperature is normal and in uncomplicated cases gives no internal medication.

Jackson (*N. Y. Med Jour.*, June, 1911) used intramuscular injections of magnesium sulphate in 5 cases of articular rheumatism with excellent results. He uses a 25 per cent. solution, injecting into adults 4 c.c. into any muscle that is handy.—*The Medical Times*, January, 1912.

CLINICAL RECORD.

A CASE OF PHTHISIS.

BY R. S. STEPHENSON, M.D., NEW ZEALAND.

Miss W.—, dark, tall, thin and graceful, with flushed cheeks. She has always been subject to very heavy colds on the chest. Until now has had allopathic treatment. She is dyspeptic, often sick with cough, tongue red. Inclined to diarrhoea, menses now scanty, formerly profuse. The colds would come in the head then the chest. The cough and breathing are worse on damp days. She is so short of breath that she is confined to bed or couch. Fever slight, hectic in character.

Pulse so weak and rapid, it is impossible to count it. The feet and legs to the knees are cold and perspire, the hands are clammy. She perspires with the cough. Sometimes gets palpitation of the heart.

The whole left lung, from base to apex, was full of rales, with increase of vocal resonance and partial dulness. over the right there were prolonged expiration and a few rales in the upper lobe posteriorly.

Arsenicum, *Phosphorus*, *Causticum*, *Lachesis* were given in succession without benefit, although she was placed under very favourable open-air condition, until after five months' treatment on the 12th April it was noted "patient was generally sad and sighing. She is said to have had a disappointment in love. In the mornings she has an empty sinking in the stomach, better from eating. Very sleepless."

Retching in the morning from hawking phlegm.

May 13th.—R. *Calcareo phos. 3c trit.*

May 20th.—Greatly better.

June 21st.—Has much improved. She is gaining weight and the right lung is clear of rales. She is stronger and more cheerful. R. *Calc. phos. mj* and *Sac lac.*

July 12th.—Says she is much better from those last powders. She has gained 21 lbs in the last two months.

January 26th, 1910.—She looks comparatively well. The pulse is stronger, but still difficult to count. The chest on both sides is clear of rales except the left base. She is able to be up and about most days. She has gained in all 2 st. 11 lbs. in weight, and is able to be up and about most days.

Though no prospect of complete recovery, a year or two of comparative ease has been added to her life.—*The Homœopathic World*, December 1, 1911.

Gleanings from Contemporary Literature.

REMINISCENCES.

By THOMAS SIMPSON, M.D., M.R.C.S.

IN obedience to a wish expressed by your esteemed president, that I should contribute a short paper for this venerable and honourable Society, I confess that I complied with great misgivings, for I would remind you that I have wandered from *medical* to *social* and *sociological* studies, and I am not sure that such journey conduces to the soundness of one's judgment and the value of one's conclusions upon matters medical. Nothing can be more unlike in aim, in ideals, in method, and in matter than are medical and civic engagements. I have, however, determined to do my best, and I feel how great an honour it is to be invited to contribute one of the series of papers with which you are to be occupied during the coming days. One has well said ; "The world has a sure chemistry, by which it appropriates what is excellent in its children and lets fall the infirmities and errors of its greatest sons. Hence the confidence we entertain of being able to drop some seeds into the soil of your memories, which may fructify after many days. The contributions of our pioneers are worthy to be remembered and our aim on this occasion will be to remind you of the works and words of those who toiled in the fields of knowledge and who bequeathed to us the fruits of their labour—who were prompted to forego the luxury of leisure and well-earned repose for the sterner pursuits of ever increasing their store of knowledge, in order to impart to others what they have acquired. For if we cast our eyes over the names held by us in most honourable remembrance, we find they belong to men who have quitted the common path of human duty and have gone out after disinterested aims foreign to their private sphere ; even the austerities and asceticism of some we have known in this connection are not without a certain charm for the imagination, because they attest a self-dedication to the duties of their calling (self-imposed and philanthropic), in order that they might hand down to posterity literary treasures of infinite value ; they seem to show a generous spirit that is not content to pay a tax of effort (imposed by a law of obligation), but freely throws itself into the service of duty, a spontaneity of sacrifice, demonstrative of a faithfulness which is beyond all bondage. The lifework of such men constitutes an unacknowledged but a real portion of the Bible of our hearts, and the sacred canon of our lives. What is it that so subdues us in these men of large adventure, and makes us recall, with gratitude and wonder, their labours of love, their patience of hope, in working towards the completion of the edifice of which Hahuemani laid the foundations a century ago ? We measure them not so much by their success as by their *worth*, and had their striving been in vain

we should still revere their memory. They wield over us the double power of rebuke and prophecy ; they show us our aspirations realized, and tell us that our conscience does not dream ; their self-denials put our comforts to the blush, we long to escape from our tangled plausibilities to their earnestness, to their singleness of aim. There are three conditions of success in all human systems : (1) Tradition ; (2) conscience ; and (3) a noble ideal ; and we have reason to rejoice that the genius of Hahnemann has been manifest in the general acceptance of his teaching in many aspects. (1) The entire change which has overtaken the methods of prescribing (induced largely through his exposure of their absurdity and futility) ; (2) the recognition of his sagacity, and the ingenuity with which his "Organon" was devised. One has well said that "the miracles of genius rest on foundations which refuse to be analyzed." In the long array of illustrious physicians who have imbibed his teaching are many who stood in the van of medical progress. Since *his* day, Shron, Rummell, Kurtz, Gross, John Fletcher, Clotar Müller, Neidhart, Hering, Boenninghausen, Jahr, Bahr, Grauvogl, Tod-Helmuth, and more recently Carrol-Dunham, Ludlam, Dake, Quin, Henderson, Curje, Burt, Bell, each of whom has left us a precious legacy, which has been embodied in the vast storehouse of their books, to which we have access. On this side of the Atlantic we have many of whom we are proud, men who counted nothing too dear, if haply they might compile and bequeath to posterity some "opus magnum" to adorn our bookshelves and to enrich our store of knowledge.

Our own city became, in the last century a veritable mecca, to which a host of worthies gravitated and emerged full-orbed to the metropolis, the provinces, and our colonies. The time would fail to tell of all whom we have known and revered in past years, and whose works do follow them.

But it may not be uncongenial, nor unprofitable, to review in some detail incidents which associated with their lives recorded and as we viewed them. We are told that John J. Drysdale commenced practice in Liverpool. In 1848 he opened a Dispensary in South Frederick Street,* Liverpool. He was speedily joined by Dr. Chapman, who had previously practised in this place—on the old lines—and these two men conjointly inaugurated the dispensary in Frederick Street. In 1842 the dispensary was removed to Benson Street. Dr. Drysdale told me his first experience of a man who applied to him there for relief of a large abscess in front of his ear, which was unsightly and painful. Being anxious for speedy relief (as he was about to be wed), he offered to give £1 to the dispensary if he got well in a week. The doctor was about to put a powder on his tongue, when he saw that a plug of tobacco occupied the palate. This was removed and replaced by hepar sulph. In four days the abscess burst, and the donation was faithfully deposited in the coffers.

Another man applied for relief of an agonizing facial neuralgia. A carious tooth was found to be the cause. Staphisagria cured the man

so quickly that his fellow workers (at south-end foundry) became patients when ill. The poorer people in the district became aware of these incidents, and repaired to the doctors in increasing numbers. They paid no fees, but the system and its advocates encountered prejudice and hostility *here* as *elsewhere*—prejudice from the community, who hesitated to believe in such minute doses, after a time, when the novelty wore off, and hostility—ruthless, virulent, and persistent—from the faculty, who apprehended that their “craft was in danger,” regarding the innovation as an unwarrantable attempt to supersede their time-honoured prerogative. What was at first denounced as a nine days’ wonder became at length a “hydra-headed monster,” and its practitioners branded as quacks, or fools, quacks, or charlatans. The cause suffered a temporary reverse, through gross misrepresentation in the press and from the virulent persecution of the doctors. Some noble exceptions were found in the persons of Drs. Finegan, Cameron, Stokes, Wm. Penn, Harris, Mr. Higginson and others, who were not ashamed to own our leaders.

About this time a remarkable cure attracted the attention of the public through the Press, in a man who had a tumour, as large as a pigeon’s egg, on the lachrymal bone. He had been seen by many surgeons, who advised operative treatment. He was timid and applied to Drysdale, who gave him pilules of petroleum 6, with resulting cure. The lachrymal duct conveyed the tears from the eye as before, the excoriated cheek healed, the dry mouth was restored to natural moisture. (See the sketch in “Pathogenetic Cyclop., vol. ii, p. 36). This case had a fascination for me at the time, and studied this strange book with ceaseless avidity, and found many wrinkles which helped me in my isolation at Waterloo, years afterwards.

Our annals relate that in 1854 a much greater demand was made upon the resources of the dispensary, and resident surgeon (Dr. W. Hitchman, by name) was appointed, and soon this man succeeded in winning the confidence and devotion of the poor by his genial manner and tactful dealing, and he was for a time the favorite with many. I remember how rapidly he rose to popularity, driving a pair of cream-coloured ponies in a chaise, and a flunkey behind who stepped down at each stopping-place, taking his stand at the heads of the horses. Hitchman resigned his appointment soon after through pressure of private practice. He was succeeded by Dr. Gwynn and Williams and Messrs. Platt and Cresswell. The staff soon presented an imposing spectacle, with Dr. Drysdale (consultant), and Dr. John Moore (consulting surgeon), Dr. Hayward, Gelston, Willans, Roche, Stokes, &c. Thus equipped the dispensary grew rapidly in popularity, and the Liverpool Corporation (with the lamented Mayor, S. R. Graves, as champion) remitted the rent and rates to the Committee as a proof of their approval. Over 14,000 cases were treated in 1858, and the number steadily increased, and now the Committee decided to erect a new building in Hardman Street, a commodious and commanding structure, with which most of us are very familiar. It

was the seminary from which many of our leading men have gone forth to the metropolis and provincial centres. Among them we name Nankivell, Burnett, Clarke, Wilde, Blake, Simmons, Galley, Blackley, Berridge, Skinner, Dr. John and Dr. Charles Hayward, Mr. Mahony, and last, but not least, our amiable, estimable President. Personal intercourse with these men was a delightful experience, educational and inspiring. I never applied in vain to any of them for counsel or encouragement—always urbane, courteous, accessible. They were delighted when we could record striking clinical confirmation or reveal any new proof of the truth of the law of similars. How often have I found reassurance when told “*that* was pure homœopathic,” after securing good results from the apparently indicated drug. At this time our actions were fortified by the aid which was afforded to us in being in touch with consultants in the city. It was of incalculable value. Many precious hours were spent in conference with these leaders of thought, and we looked confidently for their help in all times of our perplexity. Poverty was no bar to our getting the best advice; the only reward sought for was a successful issue. We early learned the wide chasm which lies between our wishes and our powers, and the need for ever-increasing application to our text-books, and I was fortunate in securing the library of a retiring doctor, whose case-book, with annotations, I have to-day. The wider the range of reading, the greater our influence in the world of patients, *e.g.*, having an intractable case of chronic Bright’s disease, which the ordinary drugs failed to touch. I happened to see in “Grauvogl’s Text-book” an instance of a similar kind to my own, which he treated with 5 gr. doses of pure *coccus cacti*. After two weeks my patient had so much improved that she needed nothing more to complete the cure. In like manner we often find that the simillimum (when carefully selected) will surprise us, as having been most remote from our exceptions.

A strange experience about this in my practice (1870) was that of an old man, living with his wife at Seaforth, who asked me to treat a large fibrous tumour, pendulous from the lobe of his ear. Dr. Bickersteth had told him he would remove it by the knife, otherwise it might kill him. It happened that Dr. Arthur Kennedy was spending a time at my place. I showed it to him, and prescribed an ointment of *Sempervivum tectorum* (house leek). After a month’s treatment the lump dropped off, to the delight of all concerned. Frequently one has his patience sorely tried by lingering confinements. An inestimable hint which I got from Dr. Ludlam has saved me many weary hours of waiting. By giving 2 gr. *caulophyllum* 1x, the contractions are soon revived and labour proceeds apace (if the line be clear). Finegan told me years ago how beneficial he had found the hint I gave him. A drug which had helped me in agonizing cases of pleurodynia, aggravated by the slightest movement, is *rannunculus bulb.* followed by sulph. Our lamented colleague, Dr. Pope, gave me hints for dealing with gout by means of *tr. colchicum* 1 dr. to 3 oz. of water, ʒi. dose each hour till better. Also for “sleepless-

ness," 1 dr. liq. morph. to 3 oz. of water, dose 1 dr. each hour. It is astonishing how many pegs there are on which therapeutic ideas may be hung. Hahnemann, Rademacher Fletcher, Grauvogl, Virchow, all help us. Drysdale once said, "Whenever a physician accomplishes a really good cure, it is because he has given a more or less homœopathic remedy, and we must see more and more clearly, as time advances, that our power for good in the world is in proportion to our breadth of view." Nothing impressed me more at the recent International Congress than to find such magnanimity and trust between the various sections. The London men, though divided into two or three camps, live in cordial relationship. The little company from Glasgow, who are the pupils of Dr. Gibson Miller, fraternizing with men of entirely opposite opinions. Mutual borrowing and voluntary service accomplish marvellous results, so that we shall gain much by intercourse, as well as in recalling the suggestions of men of large adventure and ingenuous mind. It has been declared that he who calls in the aid of an equal intellect doubles his own, and I confess to have succeeded better from imitation than from originality. Every man has some message for us; our interests lie in an open mind and an attentive observation. Is it not the true way in everything straight, and somewhat narrow? Truth is of necessity exclusive, *excluding everything* that is in conflict with it.

To return to narrative, the memory of such men as adorned our ranks forty years ago is fragrant for obvious reasons; their enthusiasm was conspicuous and they were eager to secure converts; no pains were spared to avert misunderstandings as opportunity offered. I found my newly-discovered friends at all times urbane, courteous, accessible, and I gladly availed myself of their valued aid in emergencies which are inseparable from a general practice, where one is single-handed. Dr. Drysdale extended to me the sincerest friendship from 1867 until his lamented death. Of his excellence I cannot fitly speak, it was the constant wonder of my mind; his modesty, his industry, his ability, stood out conspicuous in the view of his contemporaries. To further the advance of "the Cult" he counted nothing too dear. When a paper was desired by our "Society," it was to his erudition and knowledge we appealed, and never in vain. His tireless devotion to the compilation of such works as "*Materia Medica Pura*" (physiological and applied), "*The Cypher Repertory*," "*The Protoplasmic Theory of Life*," "*Is Scientific Materialism consistent with Dogmatic Theology?*" &c., &c. His zeal was a wonder unto many, and the great economy of time he practised enabled him to excel all others in the toil of editorship of such books as the *British Journal of Homœopathy*. He became pre-eminently practical during later years of his life, declining to prescribe on any but "the solid ground of reason," and mostly in the low potencies, accuracy of selection being his *strong* point.

Dr. Ben Simmons early secured the esteem and confidence of his colleagues, and extended to me the aid and counsel which I have even now

to remember with gratitude. The text-books he suggested were Raues' "Pathology," "Pathogenetic Cyclopedia," and "a cough repertory" which he had recently compiled, Jahrs' "Symptomen Codex and Repertory," and as a guide to daily practice, "The Pocket Dictionary" (Laurie, 1856). From Dr. Berridge I had the advantage of learning how to take a case, and his suggestion on the choice of books was very timely. I have found a distinct advantage from becoming familiar with *a few* books rather than in extending the range over a large number. To such gifted authors as nourished our earlier efforts in acquiring a thorough knowledge of the theory and practice of medicine we owe a debt of gratitude that can only be repaid by following in their footsteps, so far as lies in our power, because they were thoroughly convinced, by the knowledge they had gained from experience, that the treatment of diseased states with homœopathic remedies (accurately selected) was more speedy in its results, more humane, and more reliable than by the old methods; so that there were no vain regrets when opposition and ostracism were encountered from the orthodox practitioner. Our pioneers soon formed friendly relations with each other which were advantageous in every respect, being mutually encouraging and educational. The records of successful cases soon filled columns of our Journal and were repeated at the monthly meetings and annual Congresses. The *British Journal of Homœopathy* is a faithful record of the transactions of societies and of private members, which we treasure as invaluable in our daily routine and in compiling papers for our societies. Among the gifted authors, we can remember Drysdale, Dudgeon, Hayward, Hughes, Pope, Bayes, Dyce-Brown, Black, Clifton, Gibbs-Blake, and Yeldham. I had occasion once to consult Dr. David Wilson, of Book Street, London, in a case of emphysema pre-existing in a patient suddenly seized with acute bronchitis. You are familiar with the group of symptoms so often present in aged people when life seems to be threatened by an œdema of the lung—loud mucous rales, cyanosis, dyspnoea, prostration are present. Urged to secure the advice of Dr. Wilson I wired to him a brief description of her symptoms. He replied, "Give lachesis, omit all stimulants, patient should recover." She did so in a short time, and I valued his advice at its true import. He died at the Langham Hotel soon afterwards very suddenly from excitement of an interview with a violent man. Personal reminiscences are necessarily more vivid and interesting in older than in younger men, hence my tenacity for the incidents recorded in earlier years of practice. My introduction to the charmed circle of brilliant men who were first in the field of British homœopathy in the early sixties was in this wise. Having under my care a lady suffering from gastric ulcer, who could retain no food on her stomach, slept little through severe abdominal pains, lost flesh, and became prostrate on the least exertion, I was asked by her sister to see Dr. Drysdale. He at once advised that her former attendant should be aware of the desire for a change of treatment, who, however, declined to meet him at the bedside of the lady. He then

prescribed plumbum acetic. 6, as the most appropriate drug, and scalded skin-milk in small draughts as the only food. No more vomiting occurred but as pain disturbed her at night she got atropin. 3c. $\frac{1}{2}$ gr. ter die, with splendid results. She became ruddy and robust ; in nine months she was perfectly well.

Another success I had to record just then in the person of a lady, aged 45, who was afflicted with erysipelas of the face with high fever, sleepiness but could not sleep. The features were unrecognizable from inordinate swelling. I gave bell. in the 6th dilution, because early in the case a mild delirium occurred ; soon she began to toss about her arms and to talk aloud incoherently. The temperature was 104 ; pulse 124. Drysdale came to my help, and after careful inspection he advised podophyllum 3x 5 gr. at bedtime, and stramonium and anacardium in alternate doses. Before I could procure these the patient's restlessness had subsided and her loud talking had died into a faint whisper. Knowing how strictly Drysdale would have avoided a change of medicine had he seen her a short while after his first visit, I ventured to continue belladonna 12 until he paid a second visit next day. When he had seen her, he exclaimed, "That is true homœopathy," and commended me for persevering with the belladonna as the indicated remedy. In the light of recent experience it seems to me extremely indiscreet to continue the use of any drug which has evidently relieved symptoms existing in any given case. We remember the dictum of the Master : "Give the remedy until improvement begins, but then discontinue it until improvement ceases" ; untold disappointment is thus averted.

About this time I became intimate with Dr. John W. Hayward (now the *doyen* of British Homœopathy), whose practical suggestions I found to be of great value to me in my daily work. He early learned the secret of a successful physician's success in that he became a great persuader, and many people came to trust in him through the unbounded confidence he evinced in the truth of his creed. His contributions to our literature have been varied and valuable. As collaborateur with Dr. Drysdale, he laboured strenuously to found the system of representing the multitudinous varieties of symptoms of drug-action which we find so clearly defined and synthesized in that herculean task. "The Cypher Repertory" (a work which has failed to secure the favour among doctors which it so richly merits). From personal experience I can testify that its pages open up new avenues of investigation which have delighted every earnest patient, plodding searcher after the *similimum*. It stands unrivalled as a speedy, safe and lucid exponent of drug action in its infinite variety of manifestation, and leads (*through direct methods*) to the discovery of the very specific of which we are in search. The failure to appreciate its intrinsic worth was a bitter disappointment to those who spent weary hours and countless days in the labour it involved. Among the labourers in this part of the vineyard were Drs. Stokes, Nankivell, Black, Ker, Atkin, Drysdale and Russell.

Dr. John Moore was the earliest convert to our cult in Liverpool, and his genial personality won all hearts. He contributed valuable articles to the *British Journal of Homœopathy* on uterine therapeutics, on which he bestowed special pains. His views had the merit of originality and were distinctly valuable. An intimate of the great divine, Dr. Thomas Raffles, he stood a pillar in his church for years, and he died full of years and greatly honoured by his townsmen.

Dr. Slack was a convert (in his later years) through observing the success which attended the treatment of some cases by Dr. Moore, and he confronted fierce opposition from his old friends, who all forsook him and fled. He had a right of entry into any theatre in Liverpool, being the recognized doctor to actors and actresses. He died from adiposis cordis. He was known as the "Horsey Man." He could ride after hounds for a whole day without fatigue, and often visited his patients in that way, tying his faithful nag to the nearest gate.

Dr. Blumberg belonged to the men of that generation; he was always popular with aristocracy, and he found in Lady Balcarres an earnest defender of the "Cult." He successfully defended an action which was conspired against him by jealous rivals who tried to impugn his right to practice because of his lacking a British diploma. He quickly found an answer to the objection by securing an extraordinary license from the College of Physicians, and in recognition of his success his friends arranged for a dinner to his honour, where he was presented with a valuable service of plate to commemorate his triumph.

Dr. Adrian Stokes was another contemporary who resided at Southport. He worked hard in the field of literature. His strenuous life was a great triumph over defective vision, which sorely impaired his powers for work. He became blind in the end.

Dr. Charles H. Blackley was another striking personality of this time, remembered best by his exhaustive researches into the etiology of "summer catarrh," from which he suffered greatly. He was slow to believe in the efficacy of the many expedients recommended from time to time, because they had failed to yield results he had expected; being of a philosophical turn of mind, he preferred to examine every link in the chain of evidence, and so he gave such drugs as were nearest allied to the group of symptoms and likeliest to induce speedy results, e.g., anacard. in facial erysipelas (*quia*, "it causes a rash when rubbed on the skin"). He was welcomed in every sphere, had refined tastes in art and literature, and passed his last days in perfect peace.

Concerning such a shining light as Richard Hughes, one cannot fitly speak. He was the constant wonder of our minds; dignity and grace, the outcome of culture, and conscious integrity. An omnivorous student, with great felicity of diction, he wrote very many precious contributions to homœopathic literature, which are widely read in both hemispheres. Another star of the first magnitude was R. E. Dudgeon, whose "Lectures on Homœopathy" are delightful reading and all his arguments brilliant.

He was a fountain of delight, in company full of quiet humour, and touching in his tenderness. an ally of our veteran author, Dr. Drysdale, and a post-prandial speaker whose eloquence we shall never forget. In responding to the "Literature of Homœopathy" he deplored the repugnance which he saw in his brethren to study more earnestly; he made an allusion to a Highland shepherd who had imbibed deeply, and finding himself unable to stand, soliloquized, "Sure and I could ha' carried ye better in a jahr." The time would fail me to tell half I have heard and seen, of such noble and beautiful souls as William Bayes, Matthias Roth, Drs. Madden, Marsden and Newman, Collins, McKechnie, Drury, Black, Goldham, Gibbs, Blake, &c., &c.

Conspicuous among them were Bryce, Wright, Norton, Dyce-Brown, Sharp, Shuldham, Hayle, Hilbers, Holland, Guileas, Epps, Engelow, and among the exclusives we rank Millins, of Worcester (who confined his prescribing to the twelve tissue remedies) and Ozanne, of Guernsey (who relied chiefly on the sixteen principal remedies), and Webster, of Guernsey, whose practice comprised many persons afflicted with rodent ulcer, and he relies entirely on outward appliances and Finson rays, rarely giving any drug in any case.

Then we have such unique personalities as are found in every age, who rely on the highest attenuations in infrequent doses. In this connection one is reminded of Dr. Thomas Skinner, whose advent to Liverpool in the eighties was the signal for great curiosity. As the assistant for years of the redoubtable Sir James Simpson, he was recognized as a specialist in gynæcology. He was certainly very successful in the cases he undertook, which were not numerous. Upon each new patient he lavished enormous study, and he was supremely kind to those who trusted him. I have reason to bless his memory for all he did for my wife, whom he attended for fifteen years, by correspondence and otherwise. He died, aged 85, full of honour.

The commanding figures who adorned our ranks in the sixties were men of distinct and opposite qualities of mind and heart. Holland of Bath, a born aristocrat, who was recognized (as he paraded each morning the streets leading to the market) by almost every person he met, dined at 7 each night in full-dress, and seemed to "guide through life quite free o' care." In sharp contrast to his intimate friend and companion, the genial gentleman, Dr. Bayes, whom to know was to admire; his grace and gentleness added a certain charm to his ability as a writer and author. I well remember how deftly he settled all disputes.

Dr. Matt. Roth was so imposing a figure among the earlier homœopaths in this country, that we may well comment upon his unique and strenuous life and influence. It was my privilege to acquire a somewhat intimate knowledge of his erudition and his practical skill in the realm of kineto-therapeutics. I visited his gymnasium and watched his methods during many days; at an advanced age he undertook to lead forlorn hopes, and often succeeded in curing what seemed to be beyond repair.

He spoke seven languages, and surprised me by his fluency of diction at the various clubs to which we repaired from day to day, including French, Swiss, German, Italian, and Swedish. The manner of his death was tragic. Retiring to Divonne, after a long and arduous practice in London, he continued his custom of indulging in a Russian bath very often. It happened that, the baths were undergoing repairs, during which the gentlemen were sent to the ladies' department, where the taps turned in an opposite direction to those Dr. Roth had always used. Having seated himself, he let on the steam, and through a misunderstanding on the part of the bathman he was actually scalded beyond recovery. He was a prolific author and contributor to our journals, and a *confrere* of Drysdale, and the other early members of the British Homœopathic Society. Of Leadam, Carfrae, Roche, Gibbs, Blake and Madden I knew little, but they all adorned our ranks, and played worthy part in the advancement of homœopathy.

It has been said, the man is happy who early learns the wide chasm that lies between his wishes and powers. Every man may contribute his modicum to the general weal, and the lives of great men whom we have known especially exercise a salutary influence over our daily conduct and aims.

It struck me lately, in comparing my own life with that of our genial President, Dr. Hawkes, that while he had chosen the path where he could accomplish the greatest amount of work, often steep and rugged, always strenuous, I had resembled Lot, who "observed the valley of Jordan that it was well watered everywhere," selected it as his portion, while his illustrious friend was content to forego all claim to any *real estate* and wander forth in pursuit of the path of duty, as Dr. Hawkes has done all his days, being the servant and the friend of both colleagues and patients, rich and poor alike, thereby laying up for himself a good foundation for the time to come. We think no man is to be pitied who is called upon to engage in work into which he can enter with a whole heart and a willing mind as he has done. We all cherish Hawkes' personality with pride and gratitude, and trust that his later days may be cheered by the luxury of leisure amid the charm of some sequestered spot, so that at eventide there may be light and peace. *I am now no man's rival*, neither do I stand in any man's way, which *should secure to me* immunity from any jealousy from my friends, and it is my fervent hope that I may be honoured to the end by the goodwill and friendship of every member of this venerable society.

APPENDIX.

In looking back over forty years, events recur to the memory which, at the time of their occurrence, seemed less significant than they appear in the light of modern science. We may call them, aptly, beacons which warn us of danger, and, as such, are worthy of our attention. Years ago, a handsome lad was put in my care on being returned by the Master at Repton School with the report that the school doctor advised a change

of air to his home at Waterloo, he having recently partially recovered from a severe attack of measles. Suspecting some lung trouble I carefully examined his lungs, and found extensive mischief in an upper lobe, a cavity, in fact. His temperature was 103° F., pulse 110, hectic flushes and sweat at night, slight diarrhoea. I conveyed my impression of impending phthisis to his parents, and advised a consultation with a specialist. At once he saw Dr. Turnbull, who confirmed our fears. He went to Cannes, died there in six weeks, and was there interred. Ought he to have gone?

Another case of a similar nature in an adult, who had hæmoptysis several times ere I saw him, under the care of a Liverpool physician of great reputation as a general practitioner. I saw him often, the consultant now and again. Quickly very grave symptoms supervened, and our senior advised Cairo as offering the best prospect of cure. Thither he repaired, in the company and care of an elder brother, when lo! he was overtaken with an attack of hæmoptysis, and died in his state-room, and was buried at sea. Was it safe for him to go?

Again, I found myself confronted with an ugly awakening, when one day I proposed to a qualified assistant (who had charge of three or four children in a family who had measles) that the father wished me to see them. On coming to the eldest son, aged 14, I was struck by the emaciation and flushes he revealed. Temperature 103·5° F. and night sweats (profuse), and extensive dullness over the whole of one lung, and evidence of fluid in the pleural cavity was manifest. I aspirated, and got 17 oz. of pus therefrom, and he died in twelve hours after. My friend was a decent man, but very careless—but the blame rested upon me.

Again, I lost a patient whose husband was a ne'er-do-well and never paid me (except under pressure). His wife was in labour. At midnight he roused me, begging my attention, stating the case. I had not been long in bed, and I did not hurry, but was there in forty minutes. On ascending to the sick-room I heard her utter one loud cry and then her pains ceased. On examination I found a large rent in the front of the uterus, through which the head of the child protruded. It lived, but she died at once. No one blamed *me*, but I reproached myself, though I had no warning of its advent.

Another tragic incident was that of a woman whose health had failed recently, and she had a large ovarian tumour. I sent her to a Rodney Street surgeon, who came out subsequently to remove it. He was old, and quite unequal to so delicate a task. He left one of the larger vessels of the pedicle untied, put in the sutures, and departed with his assistant to Liverpool. I remained at the bedside, and suspected mischief from the jactitations, which were manifest. I wired for his speedy return, overtook him at Exchange Station, and on his proceeding to undo the sutures he found in the cavity a pool of blood. She expired shortly, and

he returned to his home a sadder and a wiser man. As for me, I never forgot the lesson.

About thirteen years ago, being called to see a lady who was lying prostrate in a shop to which she had been conveyed from the street, I learned that she was walking home from church on a tempestuous day, along a narrow parapet, in the old village of Crosby, when lo ! a heavy slate was blown from a roof under which she passed ; it alighted on her skull at the vertex and fractured it, and the blood was evidently ploughing up the brain substance. I wired at once to Dr. T. Thomas ; he was soon on the spot, trepanned, and found the space between the dura mater and pia mater surcharged with blood. The girl died comatose in a few hours. The sad fact remains to be recorded that a doctor had seen her soon after the accident, but as he had an appointment in a church choir close by, he made a very casual examination, assured the friends, "Let her rest quietly, and she will soon come round." His consternation and chagrin may be divined, but not fully.

Pregnancy in unmarried women gives a doctor anxiety because of the tendency to lying which they display, denying, as they do very often, every indication you may suggest. They have *not* been sick in the morning, they *have* been unwell regularly ; you sit at the bedside, they utter loud cries, you feel the hard tumour, and you remain, if you are wise, till troubles cease, telling the mistress or the mother what are your suspicions. It happens, though seldom, that a girl will conceal from her parents the truth, under the terror of discovery, even in the higher walks of life, and if we are entrusted with such cases we must exercise peculiar circumspection, advise their removal to a distance, and tell the friends some story which will disarm suspicion, and save the reputation of the family as well as the patient's repute.

I see two women walking about, whom no one despises, because none are aware of bygone disaster. They are both married now, and happy in their choice of men who are too true to reflect upon past failings, and while I would set my face against immorality, as a rule I would be to *their* faults a little blind.

For when death, the great reconciler comes, it will not be our past leniency that we shall regret but our severity. And now my labour of love is ended, and I may never have another opportunity of reading a paper here, because I am too old for work of this kind ; but I thank you for your patience, and trust that the Society may flourish, and each member be the participator in every durable and valuable blessing.—*The British Homœopathic Journal*, February & March, 1912.

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[No. 5.

SYPHILIS: ITS DIAGNOSIS AND TREATMENT.

BY ORREN B. SANDERS, M.D., Boston, Mass.

Ladies and Gentlemen: Syphilis, called pox or lues, is an ancient disease. It has been with us a long time; it is with us to-day, and it will remain with us. The etiology of syphilis, which was not discovered until recently, I think I can read a little better than I can state to you. Syphilis is a germ disease, and that germ is the *spirochæta pallida*, or more exactly the *treponema pallidum*, which has been diligently searched for ever since 1675, when the existence of bacteria was first microscopically demonstrated. The germ of syphilis was identified by Schaudinn in 1905. Its presence is readily demonstrated by the pathologist in smears made from chancres, mucous patches, condylomata and moist skin lesions. Observe that I say, by the pathologist, for the fact is that the *treponema pallidum* is very difficult to see unstained in the fresh state, and is also, as Jordan of the University of Chicago says, "exceedingly refractory to stains."

Diagnosis is also simplified by resort to the serum diagnosis of Wassermann or its modifications. This also requires the services of an expert, but such a test is well worth applying. Butler of Chicago, in the Journal of the American Medical Association, April 2, 1910, affirms that in the secondary stage

98 per cent. of the subjects give a positive reaction, and in the tertiary 90 to 95 per cent. In the primary or chancre stage his results have run as high as 100 per cent positive reactions, while other pathologists report success in from 65 per cent to 90 per cent of cases. In hereditary syphilis Noguchi got a positive reaction in 94.5 per cent; Schmitt of San Francisco, 100 per cent.

These two methods of diagnosis—the microscopical identification of the spirochæta and the serum test—have greatly increased the ability of the profession to determine whether or not a perplexing case was of syphilitic origin, thus preventing dangerous procrastination in instituting early treatment.

Now, first, we know that the incubation of syphilis is 21 days; the shortest period is 10 days and the longest 90 days. The chancre is the first appearance of syphilis. Every syphilis is preceded by the chancre; you cannot have syphilis except by an antecedent chancre, so if you were called in to diagnose a case that had all the symptoms of syphilis where the man gave you no history of chancre, that history would have absolutely nothing to do with your diagnosis because the chancre is a little thing. It is a little pimple developed at the exact spot where the virus was deposited, and it develops painlessly with no resultant inflammation, and many men would not observe it. Really it is a fact that they do not know it, and 50 per cent of women never observe the chancre, never notice when it appears on the private parts, so you can see how easily it can be overlooked.

Second, the induration or thickening at the base of the sore is especially characteristic, and is always present.

Third, the chancre is always followed by painless enlargement of the neighboring lymphatic glands, which are multiform. I mean if you simply see a single groin enlarged, that is not syphilitic enlargement; it is something else. A syphilitic enlargement means generally from two to three, four or five, little nodules, which are painless. They can be rubbed with the finger without pain, soreness, or fluctuation; and another

thing, they always appear nearest to the seat of the chancre—if on the penis, enlargement is in the groin; if on the breast, then in the axillary glands—the nearest glands. These, then, are the three points: first the incubation, 21 days; second, the induration; third, enlargement of the nearest lymphatic glands. If you will remember these three things you will seldom make an error. If in addition to these you discover the *treponema pallidum*, then your diagnosis is sure. You can bring treatment at once.

What is this chancre most likely to be mistaken for? First, herpes; second, chancroid; third, balanitis. Herpes are little pimples which come on the foreskin, multiple in appearance, with burning, tingling itching pain with history of relapses, and these symptoms distinguish the herpes from the chancre. I have had some patients come to the dispensary and some to my private office with both conditions, where the herpes has been the more prominent, but still a mixed infection.

Chancroid: the incubation is short, from two to seven days. It is painful; the discharge is large; in chancre very little. Then the chancroids are spreading; they will spread from one part to another and you may have perhaps dozen; with chancre, never. From chancroid you get an enlargement of a neighboring gland, one gland; it is painful; it is sore. An enlargement from chancre never suppurates, but in the chancroid 60 per cent of the cases suppurate. Whenever you get a chancre that is painful you have a mixed condition, either a herpes on your chancre or else it has been irritated by dirt or dust or some other cause. Chancre itself is painless. Therefore you should think of mixed conditions, and that is shown by the discharge and by pain. One other place we get a chancre, and that is in the urethra, hidden chancre. A man may present himself who will disclose from the penis a very small discharge, resembling gonorrhea, but which will prove to be a chancre usually overlooked by the physician and wrongly treated for gonorrhea.

Dr. Whitney gave a paper on the subject, stating he had

seen thirty-six cases of hidden chancre where they have been anywhere from one half to two inches down the urethra.

I have told you that chancre is not often recognized because you have many times the secondary conditions to deal with. I have been called upon twice within a year and have examined two cases in the tertiary stage where the physician has stated that the man has said that he had no history of a chancre and would not believe that he had syphilis, until we are called in counsel to verify the case, because he said he had not had a chancre.

I particularly want again to call your attention to these four conditions : first, incubation ; second, induration ; third, swelling of the nearest lymphatic glands ; and fourth, the presence of the treponema.

The first stage usually lasts from six to ten weeks. Perhaps I may forget to speak of what is the treatment for that chancre,—nothing but protection, simply keep it clean with mercurial salve or antiseptic powder ; protect it, simply the one word, protection. If simple chancre, that is all it needs.

The secondary stage of syphilis usually begins about two months to four from the beginning of the primary stage, so-called, these stages running from one into the other. The secondary stage begins then and runs from six months to two years. We call the secondary stage that period in which we have skin lesions called syphilides and mucous patches, inflammation of the mucous membranes of a syphilitic nature. What are these lesions ? They assume every form of skin disease. Syphilis is an imitator ; it has been called the great imitator. It cannot produce any original, but can imitate every known form of skin disease. It is erratic. It is the most erratic disease we can have.

If you have the tertiary stage you may have the secondary mucous patches ; it is most erratic. If you are treating a secondary stage and have mucous patches and the man complains of severe headache, you will know you have got a tertiary condition thrown in. I have had a typical case of that kind. The

man had patches in his mouth and had very severe headaches. I gave iodide of potash and relieved him almost instantly. Of these skin lesions I have tried to study out in simple form the peculiar characteristics and make the diagnosis from them. I have written on the board the seven characteristic forms: 1. Slow in approach. 2. Long in duration. 3. Symmetrical in appearance. 4. Absence of all subjective symptoms. 5. Dark in color. 6. Polymorphism. 7. Location.

Syphilis begins slowly, never in two or three nights, usually it takes three or four weeks. A man does not know it because there is no pain. It is slow in approach. Second, it is chronic in duration, lasts a long time; third, absence of subjective symptoms, syphilis is painless, a man or woman finds the eruption, absolutely no pain or itching; fourth, symmetrical in appearance. You never saw any that did not appear on both sides of the body. You will be surprised. A patient will say: "Doctor, I have an eruption on my right arm." The Doctor will say: "Yes, let us see the other arm." Then: "Well, it is there too; I didn't know it." If you have an eruption on one ankle, you will have it on the other; you will always get that symmetrical appearance, you never find it to fail. If you see it on one side only, it is never syphilis; *that* is symmetrical.

A woman came to me with an eruption on the thigh, running down to the knee. She discovered it in dressing; didn't know there was anything on the other side. I found both legs completely covered, absolutely no pain, no other symptoms; she had had it nine weeks. Three physicians had been treating her for urticaria, liver disease, etc. It was absolutely painless, no itching or irritation; it was perfectly marked both sides, dark in color. That was all I wanted; I gave her mercury. Afterwards there were some other symptoms which verified the diagnosis of syphilis.

Fifth, dark in color, shading from a dark red to almost ham color. Sixth, polymorphism. You may have several forms of skin lesions in one patient, or frequently mixed eruptions. Seventh, location. You get syphilitic eruptions where you

get no other eruptions—palms of the hands, soles of the feet, different parts of the body, under the knee and outside the elbow.

You will not get all seven characteristics of course. You will get three or four of them, which will be enough. Absolutely painless, and dark in color, with symmetrical appearance are almost always enough; and if it be slow in approaching you have a typical picture of a syphilitic eruption. That is easy to remember, and a valuable help in diagnosis. I have often had patients at the dispensary—it is surprising how many—who have come with an eruption on one ankle or one arm, and no eruption anywhere else, often sent by a physician and the case wrongly diagnosed as syphilis, when a knowledge of these characteristics would have prevented this error. The syphilitic eruption is, in the early stages, always symmetrical.

The tertiary period of syphilis will come at two years after the beginning, or anywhere from two to thirty years. That includes the deeper, more destructive stage, affecting the tissues of the body. The primary and secondary stages are superficial lesions; the tertiary stage includes the deeper lesions, as nerve degeneration, like tabes, also arterial conditions and all forms of gummata. These are the tertiary symptoms.

The prognosis of syphilis. A man often thinks that when he has contracted syphilis he has foresworn life, his life is useless, he can never be married, to be married would be a burden to him; that is not true. Of course his life will be prolonged plus syphilis. In other words, he will be able to fulfil all the duties that an ordinary man can, with the exception that he will have with him a possibility of some syphilitic development at some time during the rest of his life. That is what the prognosis would be. The danger would be to himself first; second to his wife, the danger of contaminating her, and that he must be told that he cannot be married until all contagious conditions have disappeared; and then to the children, for if he contracts marriage, the children will die at birth or soon after; third, earning capacity, whether he could earn a livelihood for himself

or family if any tertiary lesions appear, and then the danger of contaminating other people in life during his contagious stage.

In the prognosis, what can be the effect of treatment? What will treatment do for a syphilitic man? Fournier of Paris claims that 80 per cent of all syphilitics who are properly treated during the space of four years will never suffer from any future trouble, they will be immune if properly treated. I also note that he claims that 80 per cent of those who are not treated will suffer from some form of tertiary lesion.

Now, we come to the treatment of syphilis. The treatment resolves itself into two forms; first, hygienic, and second, remedial. A man who has contracted syphilis of course must have the law laid down to him that certain things must be done; one is, that he must stop using alcohol. You cannot cure him if he uses alcohol, either during treatment or in his future life. A man who is syphilitic really ought to be a total abstainer. A man who comes to you with syphilis has got to cut out alcohol entirely during treatment, and for the rest of his life, be at the worst, only a moderate user. Tobacco will not hurt a man in syphilis except where there are mucous patches, and they will be aggravated. If you have mucous patches you must cut out tobacco; otherwise the disease will run on for years in spite of all you can do.

Then, too, the hygiene must be the best possible. The patient must have plenty of good air and water, and all possible hygienic conditions. In this connection, I would say, a man who has syphilis should be told definitely the circumstances, and that if he will do his part you will do yours,—and you can say that with positiveness at this date to him,—to cure him. If he does not do his duty, the consequences will be upon his head. He will have to have continuous treatment for two years, partial treatment for the third year, and be under observation the fourth year. I mean by “under observation,” that he must report to you four or five times during the fourth year to let you see whether there is any development, and if at the end of that fourth year there is no relapse or return, you can sanction his

marriage or anything else you see fit; but until he does that and fulfils the four year's treatment you cannot give him that sanction. Two years continuous treatment, the third partial treatment, and the fourth year under observation.

Now, what are the remedies? Mercury and iodide of potash. If we give mercury, what form shall we give? If you decide on mercury, the bi-chloride or whatever form, use it in whatever proportion you see fit, provided you get your patient mercurialized. Use any form you see fit, only do one thing or the other. Familiarize yourself with every one of the modifications, decide upon one, the dose and its effect, and stick to that one. If you use bi-chloride, do not use any other form, but learn to use it carefully and keep on with it. I have been using the protoiodide of mercury. Why? Because I know what it can do, and it produces its effect on the bowels first and month afterwards, thus giving a warning before salivation. In other words, it will produce intestinal irritation quicker than mouth irritation.

When shall we begin the treatment with mercury? As soon as you know the man is syphilitic. Would you use it for the primary chancre? Yes, if you have found the four characteristics I have named for a diagnosis. If you know he is syphilitic in the secondary stage? Yes, if that is the first time you know it. At any period when you have made a positive diagnosis of syphilis begin your treatment, because then you can stand up and say to the man: "You have syphilis." Never give a man mercury until you can say that, because if after your treatment he may never have any other symptoms, both he and you will never be sure that he really had syphilis, but *until* you are positive do not use it. When you are positive, then begin your treatment at once.

What should be the dose of mercury in the beginning? I begin with a sixth or a quarter grain three or four times a day. If you begin with a sixth or quarter, increase it another quarter in two days and keep increasing for one, two, three or four weeks, until you perceive a condition of the bowels, throat, or tongue showing that the man is beginning to be mercurialized.

Give as much as necessary. Ordinarily one quarter to two grains are necessary. Some men are very refractory. I have patients to whom I have given four grains of mercury in 24 hours that would not be as much affected as others by a quarter grain.

After you get up so that this mercury produces an effect on the bowels, a diarrhœa, a slight pain in the abdomen and desire for stool, three or four urgings a day, then you know you are beginning to get your effect. When you get that effect, cut that dose right in two. If you are giving two grains cut it to one. That is his tonic dose. Then keep him on that dose for two years unless other things come up and you have to throw in iron if his system needs it. Interrupt it occasionally. If you have been giving the dose three or four months, stop it, giving anything you see fit for a couple of weeks. Then begin the mercury again, and run the man along for two years on that.

Now, gentlemen, some of you may say, why is it necessary to give a quarter to two grains of mercury? Why isn't it just as well to give one c.m. of mercury? Only for one reason: statistics have proved for one hundred years that mercury given in appreciable doses, and in appreciable doses only, has prevented tertiary syphilis, and when you have given only 1-20th a day and have followed that man forty years—a thousand of syphilitics—and then can come and tell me that mercury in largely diluted doses will cure syphilis, you may say small doses *will* cure, but not before.

The men who have been studying this for years say that it requires mercury enough to produce systemic effect in order to affect syphilis so that the man will be immune. Are you trying to eradicate it for a few years? No, you are treating your patient for the next 50 years, 30 or 20 years. That is why you give him mercury; that is why, not for temporary relief, but for all those years.

Now, I should say simply that the men who have especially studied this have found that it is necessary to mercurialize the man that much so that this 80 per cent. according to Fournier may become useful citizens.

Does not a man get tired of this treatment? Suppose you were the patient and you came to my office and I gave you the same tablets—you did not know what—right along, month after month; wouldn't you get tired of it? I think so. I should. I think our duty is to treat our patients individually as well as collectively. When a man comes to me I give him a pill; I run him on that for four weeks or two months. He takes it; he gets tired I don't blame him. I don't tell him I am giving him mercury. Then I believe we ought to change the treatment. How do we do it? I want to give him mercury still. Now, there is quarter grain that I have given him for two months. He is doing well; then I change to another mercury that is, the color; I run that for two months; and then he comes in and I give him a chocolatecoated tablet. It makes a change; it relieves his mind, and I believe in keeping these syphilitics and holding them. I think I have eight tablets of mercury colored up to impress the mentality of the patients. It is a little deception. Perhaps you have better success if you can hold them on one color. But I believe that after you have been giving it for six months, perhaps, and your patient has got tired and thinks it is the same thing, and if it is any good it ought to have cured him by this time, I believe it is good for the patient that we should practise that deception. .

If we treat our patients that length of time with the mercury, when do you begin the iodide of potash? Not in the secondary stage, not in the primary stage;—in the tertiary stage. We give it only when we need it. Syphilis does not need iodide of potash except as indicated by the symptoms. What are the symptoms? Neuralgias, headache, nocturnal headaches, teritary lesions, arterial lesions; iodide of potash then does its work.

Do not give iodide of potash in the secondary stage. It is not curative in the earlier forms; it is only useful later, unless you get the tertiary symptoms in the secondary stage. --

If you give iodide of potash, how are you going to give it? Iodide of potash is a very unstable product. The manufac-

turers make it all the way from 20 cents to \$1.50 an ounce. Do not allow yourself to be led into buying the cheaper products and believe you are saving money. Personally, I believe two, Merck's and Parke Davis Co.'s, are the best. Get good materials. Many a man has been taking iodide of potash in 30, 40, or 60 grains without any effect. Then I have said: "Will you please me and try iodide of potash for twenty days more," and I have given him Merck's and have had good results, simply because the iodide that he had been taking was not good.

If you are going to give iodide of potash, what dose? For syphilis you must give large doses, always from 10 to 50 grains at a dose. Saturated solution of iodide of potash (Merck's) one drop represents one grain. Do not give a man five drops every two hours; that will knock his stomach out, make him feel sick. Give it to him twice a day: 25 drops after breakfast, 25 after dinner at night, in two evenly divided doses. If you want to give 800 grains a day, give 400 after breakfast and 400 after dinner. We know that by having tried it out. How do we give it? In a large glass of water, glass of milk or other harmless beverage. I have always given it in a glass of water; never had a patient object to it. Dr. Keyes advises its administration $2\frac{1}{2}$ hours after eating. I took pains to ask Dr. Whitney and Dr. Abner Post, and both corroborated me in giving iodide of potash immediately after eating.

I have one woman who had cerebral gumma. I gave 800 grains for five weeks, 400 after breakfast and 400 after dinner at night. She recovered; I didn't suppose she would. Iodide of potash has rapidity of action. No remedy in the whole materia medica works more quickly. Properly given it will relieve syphilitic headache immediately. Do not hesitate to give a man who is in the tertiary stage 50 grains a day, 25 after breakfast and 25 after dinner. If you gave 5 to 10 he will have coryza, etc., but not with large doses. You do not get the effect from large doses that you may do from small doses. Don't hesitate to push it. If you see fit to give mercury with it, do so, but I would not recommend it.

(*Question* : Would you give mercury 20 years after lesions ?

Answer : Sometimes. It depends a little whether the man has had a full course of mercury. If he has not, no matter how late he comes, put him right on to it. If you are sure he has been thoroughly mercurialized for two or three years, no. Sometimes you do have to give it 20 or 30 years after.)

Salivation is sometimes produced by mercury, but you will have the following four prodromal symptoms : first, coppery taste in the mouth ; second, a little more saliva running from the mouth ; third, the teeth striking together are sensitive ; fourth, a little sponginess of the gums. When you get these four symptoms, stop the mercury. What do you give then ? Chlorate of potash, both as a mouth wash and internally. When you get these four symptoms, stop, do not give any further mercury.

Mercury is given by four methods ; ingestion, fumigation, inunction, and hypodermically. Fumigation you would almost never use. Inunction is sometimes necessary and often used at the Hot Springs. The man first is given a hot bath and the back rubbed with alcohol ; one gram of mercury is then rubbed over the back thoroughly in a circular fashion for twenty minutes, when a thin gauze shirt is put on and left. This is repeated every second day for two weeks, and then interrupted. Hypodermic medication is used much more than formerly. Two forms of mercury are used, soluble and insoluble. The soluble forms are the bi-chloride benzoate and biniodide. These are painful and seldom used. The insoluble salts are salicylate, grey oil, and calomel. The salicylate of mercury is the one most commonly used. A 10 per cent. solution with liquid albolene is made and seven to ten drops of this solution used, repeating the dose once a week until the effect is reached. It is usually given in the buttock under aseptic conditions. The only bad effects from the hypodermic medication would be local reactions, like pain and swelling, with some danger of embolism.

The only other remedy I want to speak about is Salversan, the new "606" remedy. This remedy, above all others most highly vaunted today, is an arsenical compound, the climax of a

long series of discoveries made by Erlich and his co-workers. Atoxyl, which preceded it, was discarded because of its injurious effects on the optic and acoustic centres, and it was only after long and laborious study and experimentation that Salvarsan, the six hundred and sixth compound of the series, was evolved and offered as the deadly foe of the *treponema pallidum*: the miraculous remedy, one dose of which would kill all spirochætae in the system at the same time leaving the body absolutely uninjured.

Unfortunately it has not fulfilled these expectations, although it is proving a valuable ally. Its name chemically — dioxydiamidoarsenobenzol-dihydrochloride — indicates its composition. In appearance it is yellow powder, difficultly soluble in water, with which it forms a highly acid solution which, before injected, is preferably rendered alkaline by the addition of sodium hydrate. As Salvarsan is affected by exposure to air, it is put up in sterile sealed tubes each containing 0.6 gm. As high of 1.2 gm. has been injected intravenously in one dose without bad effects. This seems to be the preferred way of administering it, but it may also be introduced subcutaneously and intramuscularly.

Of the last two methods the availability of the intramuscular especially is discounted by the pain occasioned, the danger of injuring a large nerve trunk, of infiltrating a large nerve, of puncturing large blood vessels, of causing embolism, of setting up severe local reactions, such as inflamed tumefactions, painful and extensive infiltrations, ulceration and necrosis. Such local conditions are slow to heal. Acid, alkaline, neutral, or even oil suspensions of the drug may produce these effects in greater or less degree. Systemic reactions are evidenced by fever, headache, dizziness, vomiting, diarrhoea, nervous irritability, cutaneous eruptions, sometimes transient albuminuria, all of varying intensity in individual cases.

The best region for intramuscular injection is doubtless the buttock, although the back below the scapular has been used, and subcutaneously even abdomen. But as the technic of the intravenous method becomes better understood, the intramuscular

becomes correspondingly less popular. The local symptoms given readily explain this, for when inflammation of the buttock does not proceed to the extreme of ulceration, the swelling may yet persist for days, and the patient frequently require to be kept under observation for practically a fortnight.

Marshalkof is quoted in the New York Medical Journal of last April as warning against both subcutaneous and intramuscular injections as having no lasting curative action. He got recurrences in 50 per cent. He thinks Salvarsan by the intravenous route, supplemented by mercury, the treatment of the future.

It must not be supposed that all individuals having syphilis are fit subjects for the exhibition of Salvarsan. Its use is contraindicated according to the best authorities, in aortic insufficiency, aortic stenosis, aneurysm, diseases of the heart muscles, myocarditis, angina pectoris, arteriosclerosis, diseases of the central nervous system affecting vital organs, and especially if with degenerative changes. Cases in which cerebral hemorrhage might occur; cases with marked retinal and optic nerve lesions; also in diabetes, gastric ulcer, advanced pulmonary disease except tuberculosis.

These contra-indications are absolute, while well compensated cardiac lesions, the presence of acute infectious diseases, cachexia, chronic debilitating diseases, old age, pregnancy and cases already treated with other arsenical compounds, call for great discretion and judgment.

Blascko's summing up of the indications for Salvarsan mentions malignant cases of syphilis intractable to mercury; all cases intolerant of mercury, or in which recurrence takes place during mercurial treatment, primary lesions before the secondary occur, constitutional syphilis hitherto untreated in the primary or secondary stage. He also advocates the combined use of mercury and the iodides with Salvarsan, in late recurring secondary lesions.

Its most spectacular results have been seen in its rapid healing of persistent and relapsing mucous patches of the tongue and

fauces, ulcerating gummata of mucous membranes, chronic interstitial glossitis, scaling infiltrated syphilides on the palms, and severe lesions of malignant and hereditary syphilis.

Relapses, however, are being frequently reported, and too much stress cannot be laid upon continued constitutional mercurial treatment.

From all that has been said of Salvarsan, it is evident that a thorough physical examination and careful blood test should precede its administration. Also the latter must be regarded as a surgical operation, and done under aseptic conditions with appropriate after-treatment. It is really to be deprecated, therefore, that Salvarsan should be exploited as a popular remedy or sure cure for syphilis that any physician can administer on the mere suspicion or even diagnosis of syphilis. It will be especially dangerous to the community, if the laity fall into the clutches of quacks who will promise immunity from further trouble after one dose of "606."

It has recently been reported in the *British Medical Journal* by Sir J. Hutchinson, in paper entitled "Salvarsan and Arsenic Cancer," that the use of arsenic creates a proclivity toward malignant forms of growth, especially epitheliomata and sarcomata, and he especially calls attention to Salvarsan as a possible, even^o probable danger in this respect.

Salvarsan is yet on the trial list. It is a powerful remedy but it will take years to verify or disallow all the claims made for it.—*The New England Medical Gazette*, September, 1911.

EDITOR'S NOTES.

Pedantry in Plurals.

Robert Louis Stevenson said, if we remember aright, that prepositions are the fiends of the English language. In a much more restricted sphere we are inclined to say the same thing of the plurals of words formed or derived from foreign tongues. We remember receiving an intimation from a very superior person indeed that he would not be responsible for such a plural as "serums." Of course, every one knows that a Latin noun ending in *-um* forms its plural in *-a*; that is an excellent rule to remember when we are writing Latin. But if we adopt words into the fold of our English mother tongue, we should give them full right of citizenship and therefore make them obey our laws. Hence we say "serums" not "sera." In this we have the sanction of so scholarly a writer as Sir Clifford Allbutt, who, in his little book, *Style in Medical Writings*, condemns as pedantic the use of Greek and Latin plurals in words which have become part of the English language. He instances "asyla" for "asylums"; to this we may add "encomiums," "eulogiums," "emporiums," and "sanatoriums," to take the first words that come to mind. In regard to the last of these words we may state that the question of its plural was debated by the Académie Française—and the French are very particular in such matters—with the result that the Latin plural was rejected. We saw with pleasure the other day a heading in the *Times* to the following effect "Results of Referendums." A *reductio ad absurdum* of the pedantic plural has recently been supplied by our much respected contemporary the *Manchester Guardian*, which seems to have spoken of "panjandra," presumably as the plural of "panjandrum." This moved *Punch* to the following deliverance:

O adorable Cassandra !

Since the tyrannous Panjandra

On your movements keep an ever-watchful eye ;

Let us pack our *vade meca*

and clope to Costa Rica

On the speediest of motor omnibi.

The form "omnibi" as the plural of "omnibus" is variously attributed to Cobden and to Joseph Hume. It may be pleaded in excuse for both these politicians that neither was a classical scholar. But what are we to say of such a plural as "innuendi," which we have just come across in a novel called *Account Rendered* (1911,

p. 57), by Mr. E. F. Benson, author of *Dodo*, *The House of Defence*, and other popular works. Mr. Benson was a scholar of King's College, Cambridge, and ought to know that "innuendo" is not an Italian word (we will not harbour the suspicion that Mr. Benson is thinking of an impossible Latin original, *innuendus*, from which he could get the plural he uses), but is the ablative gerund of *innuere*, and, converted into an English noun, takes the natural plural "innuendoes," or, as our grandfathers wrote it, "innuendos," and our great-grandfathers "innuendo's." This is a particularly flagrant instance of the form of pedantry against which we have often protested. We have long striven to hasten the naturalization of foreign words which seems likely to be useful additions to our native speech. We venture to recommend the same course to our contributors. As Brander Matthews not long ago said: "One may help along the simplification of English by taking care, now and always, to use the plural form which is certain to establish itself sooner or later in the future. We can lend a hand to the inevitable process by setting a good example now and writing cherubs, criterions, formulas, beaus, mediums, and syllabuses." With that authority, too, we admit frankly that there are a few foreign plurals—such as alumni, bacteria, memoranda, and data—so solidly established in English that it would be hopeless as well as foolish to seek to change them at this late day. But it would be mere pedantry to speak of "ureteres" or "masseteres." And we can show that we have not forgotten our accidence by saying "sinuses" and "meatuses," thus carefully avoiding the dreadful pitfall of "meati"!—The *British Medical Journal*, December 30, 1911.

Aspects of Religious Belief and Practice in Babylonia and Assyria.

We learn from the *Boston Medical and Surgical Journal* (December 31st, 1911) that Professor Morris Jastrow, of the University of Pennsylvania, in his *Aspects of Religious Belief and Practice in Babylonia and Assyria*, gives a translation of an ancient incantation ritual which has obvious analogies in its spirit to Mrs. Eddy's *Science and Health*, and might be regarded by some as superior to that work in style and dramatic effectiveness. "Away, away, far away, far away!" the primitive sufferer from the "claim" of disease is to exclaim. "For shame, for shame, fly away fly away! Round about face, away, far away! Out of my body, away!

Out of my body, for shame! Out out of my body, fly away! Out of my body, face away! Out of my body, go away! Into my body do not return. To my body do not approach. My body do not oppress." It seems to us that this incantation contains the quintessence of Christian Science practice.—The *British Medical Journal*. January 20, 1912.

Crumb and Crust.

Lay discussion not infrequently turns upon the relative merits of the crust and crumb of bread, but it has come to our attention that the matter is often referred to the family medical adviser, generally in the form of a question as to which of the two is more digestible. Analysis shows very little difference in regard to the constituents of each, but the crust, of course, contains much less moisture, and so is richer in solid constituents. The crumb contains on an average 43 per cent. of moisture, while the crust contains only 20 per cent. One important dietetic difference between crust and crumb is the fact that the former contains an increased amount of soluble carbohydrates owing to the action of intense heat which the crust receives compared with the crumb during baking. Moreover, the crust has a more pronounced "bready" flavour than the crumb, a flavour which is attractive and which stimulates the flow of digestive juices. That the digestion of crust in the mouth is much more likely to be complete than is the case with the crumb everyone has generally found out for himself, as the plasticity of the crumb, and especially that of new bread, prevents to some extent the salivary attack. If new bread were as thoroughly masticated as dry stale bread is bound to be, there would be no reason why it should be less digestible, but it seldom receives the necessary treatment in the mouth.—The *Lancet*, January 27, 1912.

Ionotherapy for the Removal of Warts.

Marqués (*Arch. d'électr. méd.*, December 10th, 1911) relates a case in which the magnesium ion was very effective in the removal of warts. The dorsal face of both hands in a patient was covered with a large number of warts of different sizes, some of them dating back for four or five years. The right hand was treated with the magnesium ion, and excision with the bistoury was practised in the case of the left. Absorbent cotton impregnated with a 2 per cent. solution of magnesium sulphate was wrapped

around the right hand, and on the cotton was fixed a zinc positive electrode, a negative electrode of large surface being placed on the back. A current of 20 milliamperes was given for twenty minutes, three sittings per week--sixteen sittings in all. When the patient left the hospital the warts of the right hand had disappeared. Under electrical treatment they became detached little by little, leaving only small and almost invisible cicatrices. On the left hand, which had been treated surgically--excision with bistoury and painting with silver nitrate--there were larger and more visible cicatrices, and a certain number of small warts still remained untouched. Ionotherapy certainly gave a better aesthetic result as well as a more complete operative one. The same author has treated a case of severe lymphangitis of the forearm and wrist with zinc ionization. The result was a rapid easing of pain and a disappearance of abnormal temperature and coloration.—*The British Medical Journal*, January 27, 1912.

The Buccal Cavities of Dipsomaniacs.

This have been studied with especial reference to tuberculosis by Dr. T. R. Du Castillo. The mouths of alcoholics seem to be especially alive with bacteria that are likely to invade the lungs : and the mucous membrane of this region makes good soil for the cultivation of the tubercle bacillus. Besides, neurasthenics and hysterics augment the number of dipsomaniacs whose feebleness increase pthysiogenic activity. Dipsomaniacs are a social peril by reason of their dissemination of the infective material of tuberculosis.—*The North American Journal of Homoeopathy*, February, 1912

Nutritive Value of Soy Bean.

John Ruräh (*Med. Record*, September 23rd, 1911) states that the soy bean is an annual leguminous plant that is used frequently in China and Japan and has great nutritive value. It is especially useful in the dietary of diabetes, since it contains protein, nitrogen-free extract, and fat in considerable amount, and cane sugar and starch in small amount. Soy bean flour yields 13 grains of protein and a food value of 120 calories. The beans may be cooked in soups, baked, or boiled with salted meats, etc. After the beans are soaked for some hours the firm skin will separate and can be removed easily. The author gives recipes for making gruels, broths, muffins, nut cakes, pancakes, etc.—*The British Medical Journal*, November 4, 1911.

Sudden Death in the Course of Normal Labour.

Lacrotte (*Journ. des prat.*, June 3rd, 1911) relates a case of sudden death in the course of what seemed a normal labour. The patient was a woman of robust health, who had already borne three children without untoward incident of any kind. The author had previously examined her circulatory system, which was normal. The patient was first seen and examined when the pains were slight. There were no varices, no oedema, and the pulse was normal. The dilatation of the os was small at this stage. Labour progressed satisfactorily for some hours in quite an uneventful manner, the os uteri having dilated slowly, but otherwise normally. The pulse was still good and the sounds of the fetal heart normal. About this time, after a vaginal examination, the patient suddenly became inert, she breathed badly, and became pulseless. The heart on auscultation was found to have stopped beating, and, after a few inspirations, she expired. The author then goes on to discuss the possibilities of this tragic occurrence. The patient had no endocarditis, no varices, and no placenta prævia. The pains had been regular and there was no tetanic contraction of the uterus. There had been no suggestion of eclampsia nor retroplacental hæmorrhage. The patient had not become pallid and the pulse ceased suddenly; further, there had been no change in the shape and size of the uterus. After referring to the possibility of embolus, the author states that the only conclusion he can come to is that death resulted from syncope by inhibition.—*The British Medical Journal*, November 4, 1911.

Syphilis and Monstrosities.

Budaux and Le Lorier (*Ann. de gyn. et d'obstet.*, September, 1911) publish some long series of cases showing that a large proportion of children born with anomalies are the offspring of syphilitic parents. They do not exaggerate this proportion but rate it at 13.8 per cent., whilst according to recent bacteriological research the percentage is 14. It appears clear that syphilis is specially prejudicial to the cerebro-spinal system, as hydrocephalus, anencephalus, and spina bifida, now known to be the result of parental disease, are especially frequent in the children of syphilitic subjects. Beyond the brain and spinal cord, syphilis seems associated with cranial and facial deformities, harelip, cleft palate, perforation of the hard palate, and absence or ill development of the pinna. There is no special syphilitic fetal dystrophy—that is to say, that although certain malformations are relatively very frequent in the children of syphilitic parents, any such malformation in any particular case may be due to other causes, nor can it be certain whether the case represents a result of syphilis or a sequel of some other fetal malady. Prophylaxis can hardly be brought to bear on these cases, which represent mischief already done: treatment during pregnancy comes too late, and the cure of both parents before the conception of the child is the only way of avoiding the possibility of mal development.—The *British Medical Journal*, November 11, 1911.

Rickets.

Silvestri (*Rif. Med.*, August 14th, 1911) discusses some of the more recent views with regard to the pathology of rickets. He first points out that the view put forward by him in 1906 that the spasmophilia found in rickets was due to hypo-calcification of the neuro-muscular system has been widely accepted. The fact that calcium elimination takes place chiefly through the intestine—a fact which has only recently been fully known—has a bearing on this relation. However, it is not only the metabolism of calcium that is at fault, but also that of phosphorus; the two processes go on independently, but are due to a single cause—the diminished metabolic activity of the cartilage cells. The theory that this diminution is due to intestinal auto-intoxication is not satisfactory, and fails to explain the existence of congenital rickets. The author lays great stress on heredity as a predisposing cause, for, although there is no heredity in the strict sense of the word, just as in the

case of phthisis, there is heredity as regards soil. Mere deprivation or diminution of the amount of calcium in the food supplied will cause rickets. There is some evidence to show that the suprarenals act directly or indirectly on the metabolism of calcium and on the nutrition and development of the skeleton; on the other hand, the treatment of rickets, either in the way of prevention or of cure, by adrenal tabloids has not been markedly beneficial.—*The British Medical Journal*, November 18, 1911.

Treatment of Pleurisy by Injections of Air.

Castaigne (*Journ. des prat.*, July 15th, 1911) discusses this method of treatment in obstinate and recurrent cases of pleural effusion. He quotes the case of a woman, 27 years of age, who developed all the classical signs of pleurisy, and in whose case on the fourth day of the illness there was absolute dullness all over the lung. Following this practice of Joulin injections of anti-diphtheritic serum were given for several days running, but with no good effect. Repeated thoracentesis was practised with the same result, and finally the injection of air, according to the following method, was tried. An ordinary paracentesis apparatus was used, the air being filtered by passing it through sterile cotton-wool. About 500 c.cm. of fluid was withdrawn and an almost equal quantity of air injected—the quantity of air being gauged by the capacity of the vessel attached to the apparatus. The result was very satisfactory, as the fluid gradually disappeared. The author finds a difficulty in explaining the action of the air, and states that it may be chemical, or merely mechanical. It is certain that ordinary air is more satisfactory than pure oxygen which is more quickly absorbed. The injection of azote on the other hand has given very good results, but a complicated apparatus is required for this procedure. An actual pneumothorax, of course, follows the injection of air, but this is of no moment. The compression of the lung by the air prevents not only the recurrence of the pleurisy, but also the formation of adhesions. The air is very slowly absorbed, forming a sort of cushion more compressible than fluid between the visceral and parietal pleurae, and allowing the lung to come back little by little to the normal state. The author considers the treatment a valuable addition to therapeutics.—*The British Medical Journal*, November 18, 1911.

The Potato Cure in Diabetes.

Rathery discusses (*Journ. des prat.*, September 23rd, 1911) in a critical manner the use of potatoes in diabetes. It is a mistake to suppose, as some patients do, that the more potatoes they eat the more quickly they will be cured. Dujardin-Beaumetz proved potatoes to be superior to gluten bread, as furnishing less sugar to the economy, but their use must be restricted within definite limits if the glycosuria is not to be increased. The amount ought not to exceed, an average 100 grams of potatoes at each meal, cooked in water. Mossé goes so far as to say that not only are potatoes better tolerated and assimilated than any other form of aliment in diabetes, but they actually ameliorate the disease. This view, the author says, has become more or less prevalent of late. To determine the value of potatoes in diabetes they must be given to selected cases, and to this end the author divides the disease into (a) the simple form of diabetes in which the glycosuria disappears whenever carbohydrate restriction is practised, and (b) the graver forms of the disease which are unaffected by a restricted dietary, in which indeed the restriction of carbohydrates carried on too rigorously, may result in the production of acidosis. The former class is the more appropriate for the potato regimen. To study the potato cure two methods are available. In the one case the patient is rendered aglycosuric, and potatoes are given in increasing quantity until sugar appears in the urine again. The same method of estimation may be employed in the case of other starchy foods, also for comparative purposes. The second method is used in the case of a patient under a fixed dietary but with sugar always present. Increasing quantities of potato are given, and it is noted whether the sugar increases or diminishes. The first of these is the best, and gives the most satisfactory results. To prevent any error in the interpretation of results, the experiment must be prolonged for several days in succession. Another source of error will arise if during the treatment there is any variation in the amount of exercise taken by the patient. It is difficult to obviate these errors in general practice, but they must be recognized. The author then quotes a number of clinical experiments of his own which on the whole went to prove that potatoes have no specific virtue in diabetes. They were given also in certain cases with haricots to see whether they facilitated the assimilation of the latter, but with negative results. The author is of opinion that potatoes may be given in a large number of cases, but ought to be

considered merely as a convenient dietary, not to be given with impunity, but in proportion to the amount of carbohydrate the diabetic cases tolerate. One kilo of bread corresponds to two and a half kilos of potatoes in carbohydrate value, the chief advantage of the latter being that its greater volume seems to appease the hunger of these patients more satisfactorily. In the opinion of Mossé potatoes are also more easily assimilated than the other carbohydrates, such as bread, haricots, and lentils. They are also better tolerated. Mossé further adds that the potato cure augments the glycolytic power, and in consequence improves the diabetes, this effect being due to the large amount of potassium salts present in the potato. As the author points out, this argument is open to considerable doubt, more especially as alkalis can be given in much larger quantity in other ways. The great point to be considered is the personal coefficient of carbohydrate utilization. We have to treat not the diabetes but the diabetic, and a cut-and-dry regimen cannot be advocated in advance. The author's conclusion is that the potato is not *the* remedy for diabetes, as some would suggest, but in certain diabetics it possesses peculiar advantages over other foodstuffs.—The *British Medical Journal*, November 18, 1911.

Curious Cases of Incompatibility.

In a recent issue of an American pharmaceutical journal attention is drawn to the fact that an incompatibility between a medicine given internally and one applied externally may cause undesirable epidermal manifestations. Reference is made to a case in which hydrogen peroxide was applied externally, while potassium iodide was given internally. The result was a severe burning of the skin, the cause of which was not discerned for some little time. In another instance a colourless tincture of iodine, taken internally, in conjunction with an ointment of ammoniated mercury, externally applied, caused severe irritation of the skin, which was attributed to the toxic action of mercuric iodide. Other illustrations might be given of the importance of avoiding such cases of incompatibility. Thus, sulphur given internally and solution of mercury used externally may be expected to cause a deposit of black mercuric sulphide in the skin. These instances are of great interest to physicians as they afford an explanation of phenomena which might sometimes be attributed to idiosyncrasy or some other cause, except the right one. Within the last few months an interesting case arose at St. Paul, Minn. A lady had used a certain advertised face-cream

for the purpose of removing freckles, and she was horrified to find that her face became variegated in colour from yellow to brown and then to black. Since many creams of this nature contain some form of mercury it is probable that the trouble was caused by a chemical reaction between the ingredients of the cream and some medicinal substance she may have been taking at the same time. These illustrations emphasize the danger of indiscriminate self-medication; they further show that care should be taken not to use mercurial creams when undergoing certain courses of internal medication. The apparently harmless sulphur lozenge or compound licorice powder may cause much chagrin and discomfort, if not danger, when taken into the system at a time when a favourite brand of toilet cream is being used to beautify the complexion.—*The Lancet*, March 2, 1912.

The Detection of Small Quantities of Blood.

Revenna (*Rif. Med.*, December 18th, 1911) gives an account of his experiments with the phenolphthalein test (Meyer's) for blood. A strongly alkaline solution of phenolphthalein is prepared by dissolving 10 grams of sodium hydrate in 50 grams of distilled water and adding 5 grams of powdered zinc and 1 gram of phenolphthalein. These form a violet-red fluid which should be heated until it becomes completely decolorized. In the presence of peroxide (2 vol. sol.) and haemoglobin, a well-marked red colour is seen. By this test blood can be detected in dilutions of 1 5 or 6 millions. For Faeces the author finds it better to prepare an aqueous solution of the faeces instead of an ethereal extract. To avoid the fallacy of blood being derived from haemorrhoids, he suggests that the small quantity of faeces necessary for examination can be procured by the use of a sort of spoon forceps. The forensic and prognostic importance of the detection of occult blood in the faeces is too well realized by all to make it necessary to quote the illustrations given by the author. He is satisfied that the phenolphthalein test is one of the best, and quite reliable, although the presence of various substances in urine and faeces tends to reduce the degree of dilution in which blood can be detected as compared with distilled water, yet it is quite sufficiently sensitive, and better than the fluorescein test. The test can be made more delicate, as regards urine, by the addition of acetic alcohol.—*The British Medical Journal*, March 2, 1912.

Inconsistent.

True science faces or follows facts, and it ceases to be true to itself when it tries to smother them. No man of science will dispute this proposition. One of our contemporaries quotes from the Government returns in *Public Health Reports* figures which show that in one week there were 2,465 cases of small-pox in the registration area of the United States, and ten deaths from that disease in the same period. On this the editor comments: "Before vaccination over 50 per cent. died—and yet some folk object to preventive measures." Now the *fact* in this matter presents a dilemma: If all these cases were vaccinated the operation does not prevent small-pox; if they were all unvaccinated the operation had nothing to do with the mildness of the disease; if the cases were divided nearly equally, the operation has no special effect either way. The editor also quotes another fact from the same official source. At Palermo, Italy, for two weeks there were reported 238 cases of small-pox and 109 deaths in the same period from that disease. Italy, like Germany, has a rigidly enforced vaccination law. The foregoing figures are official. What deduction can science draw from them?—The *Homœopathic Recorder*, March 15, 1912.

Serum Dangers.

It looks as if serums were on the wane and might go down and out if it were not for the fact that health boards had strenuously adopted them almost to the point of compulsion, and a health board, being official, is hard to reverse, even for itself. Anaphylaxis is a part of the serum operation and as we learn from Dr. G. T. Grinnan's paper (*J. A. M. A.*, Jan. 20) was a name adopted by Ricket in 1904 for this phase of the action of serum. Here is a practical illustration from the paper:

"For example, if we give a normal guinea-pig a sensitizing dose of 0.1 c.c. of horse-serum subcutaneously, intravenously, or intracranially, and after a period of from seven to nine days give this sensitized guinea-pig another dose in the same manner, the pig becomes very suddenly sick. He becomes restless, scratches at his nose and mouth and appears in great distress. His breathing becomes irregular, shallow and quick. He has convulsions and dies in so-called anaphylactic shock, the heart continuing to beat for some time after respirations have ceased. Had the pig sur-

vived the second dose, he would have been in a condition of immunity for the time being, and would have no longer reacted to a dose of the same serum. If after giving the first dose no more serum had been given, no symptoms would have resulted."

The same condition seems to prevail with human beings. Farther on we read that "according to Donaldson 8 per cent. of all serious accidents in the use of serum occur in those who have been previously inoculated. Reports from all parts of the country confirm this." Finally Dr. Grinnan concludes by saying that this form of medication requires "as much study as the most dangerous drugs." It is a queer state of affairs for the honest doctor; on the one hand he is loudly accused by some of being "criminal" if he does not use this serum and yet if he reads Dr. Grinnan's paper he will see, incidentally mentioned, "thirty-four deaths reported by Owens following the injection of horse serum (in the form of antitoxin)," which confirms the claim that the drug should be handled as one that is "most dangerous."—The *Homœopathic Recorder*, March 15, 1912.

The Fly.

One of our estimable contemporaries prints some figures concerning the fly that are startling. For instance, we are informed that "one fly has in a season 5,184,663,552,000,000,000 descendants"—the gentle compositor will carefully compare and see that he gets this straight. Also that 75,000 babies die every year in the United States from flies. Also that the people spend "over twenty billion dollars yearly for fly screens and other means of protection against the insect." Think of that, will you? It would build forty Panama canals. The business of the Standard Oil, the U. S. Steel Corporation and the "Beef Trust," all combined, sink into insignificance when compared to the business of making fly screens. How much each family must spend you can figure out for yourself. When we consider the number of descendants one fly has, the mind is simply stunned, though at the same time, "as through a glass darkly," it dimly sees why the wits so often throw the gaff into some medical science, and ask, "Of what avail to 'swat the fly?'"—The *Homœopathic Recorder*, March 15, 1912.

Moving the bowels.

Montaigne of the 16th century, wrote: "And to say the truth, of all this diversity and confusion of prescriptions, what other end and effect is there after all but to purge the belly? which a thousand ordinary simples will do as well; and I do not know whether such evacuations be so much to our advantage as they pretend, and whether nature does not require a residence of excrements to a certain proportion, as does wine of its lees to keep it alive: you often see healthy men fall into vomiting and fluxes of the belly by some extrinsic accident, and make a great evacuation of excrements, without any preceding need, or any following benefit, but rather with hurt to their constitution. 'Tis from the great Plato, that I have lately learned, that of three sorts of motions which are natural to us, purging is the worst, and that no man unless he be a fool, ought to take anything to that purpose but in the extremest necessity. Men disturb and irritate the disease by contrary oppositions; it must be the way of living that must gently dissolve, and bring it to its end. The violent griping and contest between the drug and the disease are ever to our loss, since the contest is fought within ourselves, and that the drug is an assistant not to be trusted, being in its own nature an enemy to our health."—*Montaigne's Essays. On the Resemblance of Children to their Fathers*.—*The Homoeopathic Recorder*, March 15, 1912.

Poisoning by Small Doses of Aspirin.

Dr. Conwy Morgan, of Hastings, published in the *British Medical Journal* last year the case of a lady who was on two occasions poisoned by small doses of aspirin. The account is as follows: "Mr. A., aged 66, was, last spring, advised by a friend to try aspirin for her rheumatism. She therefore took one 5-gr. tablet some little time after a meal at which she partook of fish and cocoa. In half an hour she noticed that her lips were swollen. The swelling spread rapidly all over her face, and finally her tongue and throat became affected. In twenty-four hours all swelling had disappeared.

"Second incident—On December 8th, Mrs. A. consulted Dr. Barker about her rheumatism, and he prescribed for her aspirin 5 gr. three times a day. She took the first tablet at 5.15, allowing it to dissolve in her mouth, and using no liquid to wash it down. At 5.30 she had a meal consisting of coffee, bread and

butter, and some preserved greengages (not tinned). I was called to see her shortly after 6, Dr. Barker being out. I found her very anxious and restless, her face enormously swollen, especially the eyelids, lips and nose. The tongue was swollen so much that it was with difficulty protruded between the teeth. The fauces also were much swollen and she complained of great discomfort in her throat. There was no headache, but she complained of her head being funny and uncomfortable. On her hands and forearms there was an urticarial rash. The pulse was 110, feeble. The pupils were moderately dilated and the conjunctiva of both eyes bloodshot. Next morning the swelling was much less, but the eyelids were still very puffy and the vessels of the conjunctiva engorged; in fact this symptom did not disappear for a week. On both occasions the drug used was the product of the Bayer Co., made into tablets, and there can be no doubt as to its purity. The aspirin eruption seems to have been a vasomotor neurosis allied to anæo-neurotic oedema."—The *British Homœopathic Journal*, April, 1912.

The Amusing Cycle.

Many of our readers have doubtless noted in recent numbers of certain journals of the dominant school of medicine, articles in which the application of bees for stinging purposes was recommended as a new cure for rheumatism. Unless we are mistaken the first case thus reported appeared in the *British Medical Journal* and was that of a man, a chronic sufferer from rheumatism, who, after being accidentally stung by bees, entirely recovered from his disease. Various writers have gone so far as to describe how many bees should be applied and the proper technic of application. This is, of course, very amusing to homœopaths who are familiar, and have been for years, with the efficacy of *Apis mellifica* or of *Apis virus* when properly indicated in rheumatoid conditions. It is, however, now lauded as a new discovery by our friends of the dominant school.

This is particularly amusing in view of the following facts: On January 29 the *Boston Sunday Herald* contained a reproduction of its publication exactly 50 years ago. In looking over the various contents of this old journal we find a paragraph entitled "New Medical Discovery." Among other things the following appears: "A distinguished Frenchman, M. de Gasparin, having heard of the facts cited by Dr. Desmarts, communicated to him a fact in his

own experience. He had long been afflicted with rheumatism, which kept him almost constantly infirm. One day, in picking up a handful of weeds in his garden, he was stung by a wasp on the wrist. The arm swelled; but the rheumatic pain disappeared. Seeing this result he caused himself to be stung the next day along the seat of pain in his leg, and was again delivered from suffering, and was able to walk with ease. This happened three years ago, and every subsequent reappearance of the malady has been cured by similar means; and by a wasp-sting on his neck an attack of bronchitis was overcome."

Thus we see another illustration of the oft-repeated case of a wonderful remedy now highly lauded, a short time later discarded as useless, only to be resurrected at some future date as another new discovery. Truly the discoveries in the therapeutics apart from those that act as to the vaccines and sera in a sort of homoeopathic manner, are so few and so comparatively insignificant as to make us question some of the wonderful advances that we are told are being made. Certainly it seems better to have firmly fixed Therapeutic faith based upon a sound and logical principle, one capable of demonstration, than to be continually vacillating from point to point without any definite advancement, merely moving about in an irregular circle.—The *New England Medical Gazette*, April, 1911.

Boracic Acid Poisoning.

J. Herbert Sanders, M.D., M.R.C.S., L.R.C.P., Medical Superintendent, Matilda Hospital, Hong Kong, contributes a paper recounting the following cases of boracic acid poisoning to the *British Medical Journal* for March 16, 1912;—

He mentions first that Rinehart records the two following cases of poisoning by boric acid:—

(a) A man, aged 38, had posterior urethritis, and he was treated with a weak solution of AgNO_3 locally, and 5 gr. of boric acid was given by the mouth every four hours. Two days later there followed extreme weakness, and erythematous rash with papules and vesicles on the backs of the hands, and a very weak pulse. These symptoms subsided on withdrawing the drug, but reappeared on resuming it. Rinehart says he thinks that it would have ended fatally had it not been detected early.

(b) A man, aged 50, had a suprapubic lithotomy performed, and the bladder was washed out with a saturated solution of boric acid; also 5 gr. of boric was given by the mouth every four hours. Ten days later an erythematous rash appeared, which later scaled, and crusts formed on the rash. The skin thickened and became infiltrated as in eczema; weakness and albuminuria were prominent symptoms; feeble pulse.

The following is a report of the case Dr. Sanders observed:—A. G. aged 23, was sent to me from Canton on July 5, 1911. He had been ill with dysentery on and off for ten months past, and the present attack commenced three weeks before admission. He stated that he had been passing a large quantity of blood in his stools, but there was not much at the time he came in. There was much blood-stained mucus; I frequently searched it for amœbæ, but I could not find any.

On admission he was put on a mixture of magnesium and sodium sulphate, $\frac{1}{2}$ oz. every four hours. After two days he had a single rectal wash of boric acid and warm water to ease the straining. At this time he was passing ten to thirteen stools daily, consisting of almost pure blood-stained mucus.

On July 8 he was put on tinct. opii \mathfrak{m} xxx, pulv. ipecac. gr. xxx, diminishing the dose each day. On July 16 (the tenth day) as he had not improved he was put back to the magnesium and sodium sulphate solution, and in addition a rectal wash of boric acid (saturated solution) and water, $\frac{1}{2}$ pint each, was given night and morning. This immediately lessened the number of stools, and the wash continued as long as I found mucus. I saw the wash each day, and apparently all was returned on each occasion.

This treatment was continued for over three weeks, and the patient was rapidly improving, taking his food well, and up and about; on the day before the onset of the symptoms of poisoning he only passed two stools in addition to the rectal washes.

On August 9 the patient was up and about, was taking his food well, and there was no elevation of temperature.

On the morning of August 10, I found him in bed with a rash covering the whole body, very like a bromide rash, generally scattered, but on the extensor surfaces the papules were gathered more thickly, erythematous in character, disappearing on pressure, not at first hard, although each papule could be distinguished. I at once recognized it as a drug rash, and ordered the rectal injections

to be discontinued and only plain water to be used. In the afternoon of the same day he became very restless and inclined to be noisy, so much so that later in the day he was put into a separate ward. On the next day he was more thickly covered, especially on the extensor surfaces and the face and the spots were more shotty and hard, with a tendency to become purpuric. He was quite delirious, and the pulse very feeble; he could not sleep, and a dose of paraldehyde had no effect. On the morning of August 12 the rash was quite purpuric with hard shotty papules; he was quieter, through weakness. He slept after a dose of chloral, and later took some food. Next day the spots were becoming clearer, but still hard and shotty. His mind was quite clear and he was taking food well. He continued to improve, but on the morning of August 14 the eyelids were very puffy. There was no albumen in the urine. On August 18 the spots were scaling, but still hard generally; in a few places a little serum escaped, and in others pus, evidently due to infection by scratching with his nails.

By August 20 the colour of the rash had faded considerably, but the papules were still hard and shotty. The general health of the patient was better; he was anxious to get back to his home as his wife had been confined whilst he was in hospital; he left for Canton this day.

I heard from his doctor that after a few days' rest at home he was able to return to his work, and as he had not seen him since he presumes all is well.

Dr. Sanders remarks that this case illustrates the sudden onset of symptoms without any warning. It shows also the long duration of the rash after all drugs had been stopped, the delirium that accompanied the poisoning, the weakness of the pulse and danger to life if not recognized at once and stopped, as illustrated in Dr. Wood's cases in Philadelphia. The case shows also the possibility of mistaking the hard papules for variola in its later stage, and also shows the inadvisability of anyone out of reach of skilled medical advice using boric acid rectal injections for dysentery. In this case no boric acid was given by the mouth, and it illustrates the rapidity and ease with which boric acid solution is absorbed by the bowel.—*The British Homœopathic Journal*, April, 1912.

Nickel Sulphate.

Koplinski (*Month. Cyl.* June, 1911) has found this drug to be of value as a destroyer of germs and an anti-bactericide. Not only in the common parasitic skin diseases does he find it of benefit, but when applied in a strength of 1 or 2 per cent. aqueous solution, as a wet compress it was distinctly helpful in impetigo contagiosa, chronophytosis, ringworm and eczema marginatum.

In acne vulgaris it can be applied several times a day and if the patient is young and pale it can be given internally 1 grain t. i. d. after meals. Koplinski also found nickel of use in chorea, motor disturbance with spasm and incoördination much like chorea, chronic neuralgia of the face, ticdouloureux, migraine, chronic enteritis, epilepsy, emotional and psychic weakness and neurasthenia.—The *Medical Times*, January, 1912.

Arnica Montana.

The local application of tincture of Arnica has produced an excessive growth of hair on the part treated. This stimulation of hair growth is due probably, not to the Arnica, but to the Arnica fly, which lays its eggs in the flowers from which some tinctures of Arnica are prepared. The Arnica fly is very similar in its action to the Spanish fly, which undoubtedly has a stimulating effect upon the hair follicles.—The *Journal of the American Institute of Homœopathy*, February, 1912.

Rapid, Certain Digitalis Action.

Liviefato states that Digalen produces a rapid effect, which is one of its principal advantages in practice. It is well known that the infusion acts slowly and that the effect is always preceded by a latent stage of development. Such latent stage is considerably shortened by the employment of this preparation of digitoxin. Its rapidity in producing an effect proves its practical value in cases of unforeseen weakness of the heart, as appears in acute infection. Digalen exerted a considerable and constant influence on diuresis, the quantity of urine increased from 650, 800, to 3,220 cc. At the same time the specific gravity decreased and the albumin no longer appeared in the urine. The diuresis continued to be copious during the next few days. Such increase in diuresis doubtless is a consequence of the rise in the blood-pressure. The rise, however,

ensues rapidly, and in the case of hypodermic injections of from 2 to 3 cc. it sets in in twelve to thirty hours after the injection. If still larger doses are resorted to, the effect on diuresis is even more pronounced, as well as on cardiac dulness and blood-pressure.—*The North American Journal of Homœopathy*, February, 1911.

Nitrous Oxide Gas and Oxygen Anaesthesia.

Dr. Clifford U. Collins, of Peoria, Ill., read a paper on this subject. The advantages of nitrous-oxide gas and oxygen, as pointed out by him, were :

1. So far no one had been able to discover that it had any harmful action on any tissues of the body when administered in anæsthetic quantities.
2. It had no odor, and the patient was not aware, so far as any odor was concerned, that he was taking an anæsthetic.
3. It produced no shock of itself, and the total amount of shock from an operation was much less under gas and oxygen than under ether.
4. It did not have any harmful action on the leucocytes, therefore its use was indicated in infections.
5. Its danger was not increased by frequent subsequent administrations.
6. There was much less post-operative vomiting than from ether or chloroform.

The disadvantages were :

1. It was considerably more expensive than ether or chloroform.
2. It did not produce deep relaxation of the muscles.
3. The anæsthesia was lighter and more transient.
4. It required a more expensive administration apparatus.

The disadvantages of gas and oxygen concerned the anæsthetist, but did not add any discomfort or danger to the patient. With an apparatus like the Teter, nitrous oxide gas, oxygen or ether might be administered separately or in any desired combination. In this way the anæsthetics might be fitted to the patients and not the patients to one anæsthetic.—*The Journal of the American Institute of Homœopathy*, February 1912.

Intermittent Word-Blindness.

E. Pritchard reports in the March *Ophthalmoscope* a case of congenital word and letter blindness, of extreme interest because of the intermittent or recurrent character of its manifestations, a peculiarity which the writer was unable to find described in other cases.

An intelligent boy, 8½ years of age, attending a London elementary school, was below the normal standard for his age because he could not learn visual reading. He learns quickly by ear, and with the exception of a memory for letters or words has a good visual memory as well. He will recognize at once even a badly drawn picture of a cup or bat or dog, but if one writes the letters c, n, p, he will not recognize any of them nor their significance. Upon repeated testing he failed to give the correct answer for more than one or two letters in the alphabet, which he probably guessed at. At times he will not only recognize all the letters, but can read quite intelligently; these lucid moments occur perhaps once or twice a week.

He has so good a memory for words spoken, that it is often very difficult to differentiate between a parrot-like repetition of whole pages of his reading book and an intelligent reading of the same.

Most of the cases of anomalies of speech are due to a congenital defect involving one or more of the following nerve-centers :

1. Auditory word-center—word-deafness.
2. Visual speech-center—word-blindness.
3. Motor speech-center—idioglossia.
4. Motor writing-center—agraphia.

The whole character of the condition cited appears to be allied to neurasthenia or psycho-asthenia, and it seems as if, while the constituent neuronic elements of his visual word-center were normal in structure, there was some defect at the synapses, which link up these memories with the processes of cells in closely associated nerve centers.—The *Journal of the American Institute of Homoeopathy*, February, 1912.

Sokodu (Rat Fever).

Frugoni (*Rif. Med.*, November 20th, 1911) records an interesting case of infection due to the bite of a rat. The condition is said to be common in China and Japan, and the disease is known under the name of "sokodu" in Japan. It appears to be a specific

infection and may be caused not only by a rat bite but by the bite of animals who have fed on infected rats. Agada has found a parasite of a protozoal type in the blood. But in the author's case and in 3 cases recently reported by Horder no parasite was found. The author's case was that of a man, aged 54, of good health, who was bitten badly in the right thumb in May, 1908, by a rat, whose teeth remained in the wound twenty-four hours before they were extracted. The patient washed the wound with vinegar and wine and three days later it appeared to be healed. Fifteen days after the bite, when in perfect health, the man was seized with shivering, fever, etc., and rapid swelling of the thumb, going on to ulceration in the site of the bite; the thumb swelled up to the size of the wrist. Meanwhile the epitrochlear and axillary glands became enlarged and tender. This lasted five or six days, when there appeared intense erythematous swelling in the right pectoral region and a little later similar cutaneous swellings about the waist and thighs, more marked on the right side. This sort of thing went on for about a month and then cleared up. No suppuration occurred. The patient kept well up to May, 1909, when a similar attack of cutaneous erythema and fever (but without any manifestations in the throat) occurred, and again in September, 1909, and May, 1910. In November, 1910, the patient had an alarming retrobulbar swelling of the right eye, with extensive exophthalmos (no alterations in the disc, or in the vision), associated with the old erythematous manifestations elsewhere. This time he was given atoxyl injections. He left the hospital cured and has only had some very slight attacks of erythema since. As has been previously noted no parasite was found in the blood. The chief and constant feature was a marked eosinophilia (8 to 11 per cent.). No helminthiasis was present, no malaria, and the Wassermann test was negative.—*The British Medical Journal*, March 2, 1912.

Gleanings from Contemporary Literature.

THE ACTION OF TUBERCULIN AND ITS APPLICATION TO THE TREATMENT OF DIFFERENT FORMS OF TUBERCULOSIS.

DELIVERED AT THE MEDICAL GRADUATES' COLLEGE AND POLYCLINIC.

BY

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THE ability to use a drug with success presupposes some knowledge of its action and of how this action is likely to influence the diseased tissues to which it is applied. This would seem a needless remark, and as an abstract proposition it would elicit the agreement of every one; and yet it is a fact that tuberculin is being administered by many at the present time with little or no knowledge of its action, and with still less clear aim in their application of it to the needs of the diseased tissues. Such an empirical use is not justified in the case of tuberculin, for, though our knowledge of its action is still imperfect, it is yet ample to supply us with a rational working basis. It is my object in this lecture to put before you, in outline at least, the main facts of its action, and how this action may be rationally applied in the treatment of different varieties of tuberculous disease.

ACTION OF TUBERCULIN.

One of the first points to grasp in the action of tubercle products is that they are quite innocuous to the non-tuberculous. Hamburger injected 1 c.cm. of Old Tuberculin into a healthy boy without any effects other than those due to the glycerine content, and Schreiber tested 40 newborn infants with doses up to $\frac{1}{20}$ c.cm. without result. Among adults living under modern conditions it is difficult to find individuals who have never been infected with tubercle. The ubiquity of tuberculous infection has only been thoroughly realized of late years, and when Koch suffered a very severe and even dangerous reaction from the injection of 0.25 c.cm. Old Tuberculin into himself, he regarded himself in the light of a healthy control. We now know that such sensitiveness to tuberculin was due to a former infection with the tubercle bacillus, and that nearly all adults show a similar susceptibility to large doses.

TUBERCULOUS SENSITIVENESS.

This brings us to our second point, the corollary of our first—namely, that tuberculous sensitiveness must be present before tuberculin can act, and also that this is only brought about by infection, recent or remote, with the tubercle bacillus. The exact change in the tissues which enables them to “activate” tuberculin we do not yet understand, and it would be unprofitable to discuss the subject here; but reference must be made to

the striking likeness of tuberculous sensitiveness to anaphylaxis, which is a closely analogous, though probably not identical, phenomenon, and the fact that lytic action is held by many to afford a plausible explanation of both facts. One of the main points in which they differ is that anaphylaxis is set up by the injection of dead albumen, but tuberculous sensitiveness as we know it has only been produced, hitherto, by the growth of living tubercle bacilli in the body.

Tuberculin Reaction and Negative Phase.

Given tuberculous sensitiveness, tuberculin becomes a powerful drug, and we will consider at once the common results of a full therapeutic dose. Some hours after the injection a train of symptoms appears known as the "tuberculin reaction." These may be "local," at the point of injection; "general," mainly affecting the nervous system; and "focal," at the site of disease. Any one or more of these effects may be present. The local reaction is sometimes useful as a guide to dosage, and there its utility stops; the general reaction is altogether a disadvantage, save as a warning, against overdosage; the focal reaction claims closer attention. Where a disease like phthisis is under treatment, slight focal changes are necessarily hidden, and an increase of sputum draws some attention to them. If, however, a visible lesion is under treatment, as in disease of the larynx, eye, or skin, it is found that slight focal reaction—that is, an active hyperaemia of the focus of disease—is the constant result of an effective dose of tuberculin.

Still another phenomenon must be mentioned together with the tuberculin "reaction," and that is the fluctuation of the opsonic power of the blood known as a "negative phase," for these run side by side. The determination of opsonic power is a convenient measure of antibody content in general, for it is probable that other antibodies are also concerned, and that these follow the opsonins in their fluctuation.

Tolerance and Positive Phase.

Following the tuberculin reaction and negative phase, after these have run their course, a very distinct rebound to conditions of increased health is generally observable. The patient experiences a feeling of heightened well being, appetite increases, weight is gained. In the foci of disease secretion diminishes and healing often proceeds apace; in lung disease the sputum may diminish. Corresponding to this improved clinical picture, two points present themselves to special methods of investigation. First, the patient becomes for a week or two "refractive" or tolerant to tuberculin—that is, it will need an increased dose to cause as large an effect as the first dose produced; secondly, there is an increase in the opsonic power of the blood and probably in the content of other antibodies also, so that we have at this stage what is spoken of as the "positive phase" of immunization.

Now I think we have collected shortly enough material to supply us with some discussion on the action of tuberculin, and we will turn for a moment to the disease which we desire to influence.

LOCALIZED TUBERCULOSIS.

If we consider, first of all, a case of localized tuberculosis we find that we know, among others, the following facts: First, the opsonic content of the blood is below normal; secondly, the opsonic content, and therefore probably the presence of other antibodies, especially low in the focus of disease; thirdly, the striking point about this focus is its very deficient blood supply. Localized tuberculous areas are but poorly vascularized, and on this account both disease and repair when left to themselves are extremely slow. The tubercle bacillus is walled in from the protective substances in the blood; bacillary substances filter through but slowly to stimulate the production of anti-bodies; food for nutrition of the cells in the neighbourhood is kept constantly scarce. Now, we may consider how an efficient dose of tuberculin will influence the course of localized tuberculosis.

Effect of Tuberculin.

First, the immediate effect of a dose of tuberculin possesses an element, the focal reaction, which is of infinite value in the treatment of localized disease. The main difficulty is at once overcome; blood, carrying antibodies and nutriment, is brought to the area of disease. This becomes obviously more vascular, and the plasma passing through it is increased.

Secondly, in the period following the reaction there is a general increase of antibodies in the blood shown in the "positive phase" of opsonic power, so that at the next injection more highly protective blood will flood the focus of disease. The result of the focal hyperaemia and the increase of antibodies shows itself in a marked healing tendency observable in visible tuberculous areas in the second week after an injection.

Practical Application.

We may now consider the administration of tuberculin in cases of localized tuberculosis from the point of view of practice. It is obvious from what has gone before that the following aims must be put before us:

1. To irrigate the diseased area by the production of a mild but prolonged focal reaction.
2. To keep the opsonic power of the blood at a high level for as long a period as possible.

The Dose.—These aims are generally served by the administration of an insoluble preparation of tuberculin in as large a dose as the "general symptoms" of the tuberculin reaction permit. The preparations of tuberculin most slowly absorbed are the endoplasm of preparations, T.R. and B.E. and their congeners, and T.R. is probably the best for this purpose. The "general symptoms" must be kept within strict limits of time and scope, or weight is lost and general well-being declines. Generally a few days of slight malaise are all that are wisely permitted, but need for limitation of dosage may come from the side of local considerations, for if caseous material is present a marked focal reaction will cause this to soften, and the desirability or otherwise of this has to be decided in each particular case.

The Interval.—The other main practical point for consideration in the tuberculin treatment of localized tuberculosis is the interval between the doses, this is governed by two factors. First, we desire to give the positive phase of antibody formation full scope, and experience teaches us that two or three weeks cover this period. Secondly, we have got to wait for the passing off of the "refractive period" to tuberculin which, as we have already mentioned, follows each effective dose. The means of measuring this I shall not enter into here, but it is found that it corresponds very closely in duration with that of the opsonic immunizing response. In all cases the interval must vary with the dosage. If a highly efficient dosage is employed the interval may be about three weeks; if a sub-efficient dose is for some reason used the interval may be shorter, perhaps ten days. A too short interval can always be shown by inequality in the effect of the dosage—a dose falling within the refractive period will be inefficient, and will consequently be followed by a shortened refractive period, so that the next dose will fall outside this, and will have a greater effect. Thus large and small effects will alternate.

Having found the suitable dose and gauged the suitable interval, in a straightforward case of localized tuberculosis little more is needed for success than to keep the ball rolling till healing occurs. It will be found when progress is made that sensitiveness becomes less as the area of disease diminishes, and so the dose may need to be raised from time to time to keep it effective.

AUTOTOXIC TUBERCULOSIS.

When the treatment of such a disease as phthisis comes to be considered it is obvious that we have a very different state of things to those present in localized tuberculosis. Our aims are similar—namely, the production of a good supply of antibodies and the improved blood supply of diseased areas brought about by mild focal reactions. If, however, we try to fulfil these aims in a manner similar to that which is successful in localized tuberculosis, we soon meet with failure. In the first place, the small dose which is efficient in a case of localized disease is obviously futile in a patient whose tissues are already flooded with autotuberculin. In the second place, the presence of this autotuberculin may and does greatly change the response of the patient's tissues to tuberculin, so that the size of an effective dose differs enormously in various patients and in the same patient at different times. On the one hand there may be increased sensitiveness to tuberculin; on the other hand, a considerable amount of tolerance may have been naturally produced. Thirdly, we are met at once by the pertinent question, Are we going to do any good by giving more tuberculin to a patient who is already getting too much?

The Foundation of Tolerance.

Let us turn once again to the action of tuberculin before we go further into autotoxic disease. We have seen how a dose of tuberculin is followed by a "refractive" interval. In cattle this is so marked as to

be utilized by dealers in passing off tuberculous beasts as healthy. A dose of tuberculin is given before the deal, and the animals no longer react to the test injection of tuberculin given by the buyer. In the human we have seen that an interval of two or three weeks has to be waited if the same dose of tuberculin is to be repeated with equal effect. Suppose, however, we elect to give our second injection during the refractive period if we desire it to be effective we must raise the dose. The effect of this second dose is to raise tolerance still further, so that the third dose must be bigger still; and so with injections at short intervals, we must constantly raise the dose if we are to obtain each time the action of tuberculin—namely, mild local reaction and stimulation of antibody formation. By this means we obtain, in addition to the effect of each dose, a *tolerance* to tuberculin established, so that at the end enormous doses are given with the same effect as minute doses at the beginning. This should be our aim in autotoxic disease. When large doses have been reached treatment is no longer hindered by the occurrence of some amount of autoinoculation; at the same time the patient is rendered tolerant of the poisons issuing from his focus of disease.

In cattle, as we saw, a single dose will produce considerable tolerance; in man a regular sequence is needed to achieve this result. If instead large irregularly-spaced doses are given, tuberculin poisoning and increased sensitiveness generally result, and this is what has commonly happened in autotoxic disease. To interrupt the vicious circle absolute rest is needed, so that autoinoculation is reduced to its lowest point. When this is done we find that phthisis patients divide themselves roughly into the following three categories :

A Classification of Phthisis.

1. Those who have symptoms of autoinoculation even at rest.
2. Those who only get such symptoms on exertion.
3. Those in whom no symptoms are produced by full work.

To consider the last two categories first, we may say that Group 2 is amenable to tuberculin treatment, whether applied subcutaneously or by the exploitation of autoinoculation on similar lines as by graduated labour. It is obvious that subcutaneous tuberculin is more easily controlled than autotuberculin, and it has besides many other points in its favour. During its administration autoinoculation must be kept at a minimum till large doses are reached.

The patients in Group 2 are mostly on the road to cure, and their danger lies in the fact that just as in localized tuberculosis, their lesion may not suffice to keep them supplied with tuberculin. On this account a course of tuberculin from outside is valuable, and can be followed up by large doses at longer intervals over a considerable period.

When we turn to Group 1 we find a much more difficult subject for consideration. A large number in this group will be beyond the reach of any but symptomatic treatment; many will be cases with marked

secondary infection where tuberculin if it is used must be employed in extremely minute dosage and with great caution; some will be acute cases in which tuberculin is worse than useless. The first endeavour in cases of this group must be to bring them as near as possible to Group 2 by all the means we have of checking autoinoculation in phthisis. "Typhoid" rest must be enforced, talking and excitement must be avoided, and visitors kept at a distance; cough must be reduced to a minimum. By these means many cases may be coaxed into Group 2, but if fever does not give way to these methods, tuberculin, preferably T.R. or B.E., may be tried in doses one-tenth or one-hundredth of those with which a course is usually commenced. This measure is closely reminiscent of the minute dose recommended by Wright to put an end to a prolonged negative phase, and it is not infrequently successful. If this fails, a larger dose may be given experimentally, since sometimes a smart reaction is the turning point in these feverish cases. This is not done altogether without risk, but this must be put against the chance of doing much good, and the responsibility is often worth taking.

It will thus be seen that the power of treating patients in Group 1 with tuberculin depends upon our power of bringing them into or near to Group 2, but there will always remain certain cases of advanced but chronic disease where tuberculin tolerance can be set up with advantage although cure is no longer possible. By this means comfort may be promoted and the patient to some extent protected against the symptoms of his disease, even though this must in the end overcome him.

Practical Application.

Consideration having been given to the theoretical side of tuberculin administration in autotoxic disease, we may turn shortly to the practical side.

Since the reactivity of patients varies enormously according to their sensitiveness and how far this is covered by tolerance, it is well to begin with a dose so low that it is certain to be ineffective. Actual dosage I shall not mention here, since I have long discarded the standards usually adopted and measure my tuberculin in cubic millimetres of original solution; and though this is the best and simplest of all methods the doses in a new standard would be difficult to grasp in a lecture. Having begun with this small dose, it may be very rapidly raised till some effect is noted. This must be looked for in a local reaction, or failing this in some slight general effect, such as a flattening of the temperature, or slight rise, or slight symptoms in the patient. Having reached this point, the doses must be raised more gradually, and for the graduation of dosage nothing is more suitable than a geometrical progression such as that supplied by Lawrason Brown in Klebs's *Textbook of Tuberculosis*. By this means risk of large reactions is reduced to a minimum, and yet, with skilful adjustment, the dose may be kept sufficiently near the reacting point to efficiently call forth an immunizing response, the main points of which we have already laid down as the

slight focal hyperæmia and the stimulation of antibody formation. It is unlikely that fever reactions will be altogether avoided, and this brings us to a parting of the ways among various exponents of the art of tuberculin administration. There are, as you know, certain people who ignore reactions, and in their struggle to establish tolerance to large doses, will allow the patient to react violently again and again. Those who have treated localized tuberculosis, where the foci of disease are under the eye, cannot look on this method with favour. They know how caseous material will soften and discharge itself under large focal reactions and though such a process in the lung may in certain cases be inevitable and lead to no harm, in other cases this is far from being the case.

By avoiding such large reactions we are putting possible danger on one side. By allowing mild reactions occasionally, and keeping the dose near the reacting point we are fulfilling those conditions which experience has taught us to rely on in the treatment of visible lesions. In this way the whole course of treatment is directed towards the healing of the tuberculous areas, and tolerance is but a valuable by-product of the tuberculin administration. This may be called the method of utilizing reactions. A third method in the administration of tuberculin aims at the avoidance of all reactions, and has not much to recommend it unless its safety.

The consideration of the method of pushing the dosage through reactions, with the aim of rapidly reaching tolerance to large doses, tempts me to the question of the value of such tolerance. Is there sufficient evidence of its value to justify us in making it an aim? If we turn to animal experiment for a moment we find that tuberculous disease protects against further infection with the tubercle bacillus. Experiments have been done on cattle, guineapigs, and, more recently, apes, which show that if virulent bacilli are injected into a healthy animal no symptoms follow immediately, but after an interval symptoms of tuberculosis appear, and the animal dies. If similar injections are given to a tuberculous animal, on the other hand, a violent "reaction" immediately follows, but the animal shows no fresh tuberculous disease. Here we find that sensitiveness to tubercle products (not tolerance) is associated with protection against fresh infection. We might, therefore, fear that by producing tolerance we were moving a valuable safeguard against the further spread of disease.

We are, it is true, removing from the patient, for a time, the power of autoinoculating himself, and this might be a danger where tuberculin was withheld. It is, however, highly unlikely that tolerance removes in any way the power of the tissues of the tuberculous to deal with the tubercle bacillus. More probably the injected tuberculin is "activated" as before, and tolerance only protects the tissues, the nervous system, and focus of disease, from the toxic effect which follows. This may be by the production of some such body as the "antituberculin" of Wasser-

mann, which is shown to increase under tuberculin administration on the intensive system. If this is the case the condition underlying tuberculous sensitiveness is not removed, but its effects are mitigated.

On the other hand, there is no reason to suppose that tolerance adds anything to immunity against further disease, and for this reason the common use of the word "immunity" where tolerance is meant is greatly to be deprecated. All that tolerance does—and this is no small advantage, is to free the patient from those symptoms of autotuberculin poisoning which were undermining his health, and from dangerous focal reaction, which were spreading the disease. At the same time it enables us, as we have seen, to treat autotoxic disease with doses of tuberculin so large as not to be unduly interfered with by autoinoculation. The value of tolerance depends, then, on the need of it in any particular case, and not in all cases of phthisis is tolerance to large doses required or even advisable. The need, on the other hand, of obtaining repeated response to tuberculin, in the form of mild focal reaction and antibody stimulation, is common to all varieties of tuberculosis. This appears to be Nature's method of cure, and if it is followed on rational lines, and the needs of each individual case carefully studied, it will be found that we have in tuberculin, and the control of autotuberculin, all or nearly all that we need for the cure of tuberculosis.

At the end I must apologize that I have tried to cover an impossibly wide field in this lecture. Its title was hurriedly supplied many months ago, and I did not realize at the moment to how big a business I was committing myself.—*The British Medical Journal*, April, 6, 1912.

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THE SACRED PRESCRIPTION.

By JNO. W. MULLIN, M.D., WILMINGTON, DEL.

When the divine injunction was given to "Prove all things and hold fast that which is good," the great Law Giver proclaimed the only infallible prescription by which man can reach the perfect conclusion.

In applying this test to the various problems of life we are often amazed at its simplicity and the ease by which we can distinguish right from wrong or the perfect from the imperfect.

Measured by this standard, however, the truthfulness of the perfect must be the *good* in the problem we analyze, inasmuch as it will harmonize with every proof we apply, and establish the fact that the perfect conclusion is the perfect law.

When seeking the good or perfect in any problem then, it is this harmonizing of all proof that will reveal the good to which we are enjoined to hold fast in this sacred prescription.

Now the medical profession is concerned with the most vital problem of life--vital to life in the double sense of importance and conservation, and the duty of each practitioner, at once, becomes his sacred obligation to prove all things medical and

- hold fast that which is good.

This self-evident truth cannot fail to impress the conscientious physician with the fact that the perfect conclusion of this prob-

lem cannot be other than the one perfect method of restoring health to the sick—a method harmonizing with truth itself and demonstrating the majestic supremacy of irrefutable law.

On the other hand, constructive medical conclusions are false and imperfect when the square and plumb lines of truth are disregarded in their building, and they cannot be otherwise, because the ideal of perfection is single and borne of perfect law.

From these axiomatic deductions thinking medical men will admit that the only perfect way of restoring health to the sick must be some single unalterable method begotten of the perfect law.

Two important questions now will naturally arise—first: “Has that perfect unalterable method or law of cure *been* revealed?” and, second: “If so, can its perfection be demonstrated beyond a single doubt by the rule of reason as set forth in the sacred prescription?”

Preliminary to answering these questions let us pause briefly and clear away the ground for the foundation of our structure building.

We should first understand the relationship existing between health and natural law, and between disease and natural law.

Health is a state of perfect harmony existing between the perfect co-ordination of organized cell-life of the outer man, and the will and understanding or vital force of the inner man.

Health means life generation, and suggests complete mental and physical harmony with natural law.

Now the rule of reason will convince the medical mind that where harmony is lost discord begins; hence disease, being the antithesis to health, would result, primarily, from a discordant rupture in that harmonious mental and physical state known as health.

Without going further into detail disease then is, plainly, that condition or state of the human economy resulting from violation, primarily, of some natural law,—a disturbance which means degeneration, disintegration and death.

Now if health exists by virtue of mental and physical harmony with natural law, and disease because of mental and physical discord with natural law, surely the successful method used to turn this discord of disease into the harmony of health must be harmoniously related to natural law; and if that method be perfect—it must be *the* natural law of cure:—and it will abide alone, demonstrating the utter futility in wasting human energy chasing will-o'-the-wisp doctrines and evanescent methods of cure built upon the sandy foundation of human vanity.

Again, in order to trace this harmonious relationship of the curative law to the natural law, it is necessary that we fully understand the meaning of the word “cure.”

According to Webster, “cure,” in the medical sense, means: “Act of healing, or state of being healed; restoration to health from disease.”

In other words, medical cure means a restoring to the patient that which is lost of the natural order of harmony or health.

A medical cure always relates to the patient and never to the disease as acted upon.

The common idea among the laity and the majority of physicians is that when a patient recovers health it is the disease which has been cured instead of the patient.

Hence we hear of specific remedies for certain diseases and other “sure cures” for different ailments; and it can readily be seen that while the grouped pathological symptoms forming the diagnosis may be removed or altered by different methods of treatment the patient is not and cannot be cured until that complete mental and physical harmony is restored in its proper relationship to the natural law by the curative law method.

Now if “cure” relates entirely to the patient and implies a restoration to health from disturbed coördinate harmony with natural law, then the curative law has only to do with that method of treatment which will most quickly and safely restore that lost equipoise in lawful manner.

In proof of this we have but to consider the fact that the

true disease must be represented, lawfully, by the totality of symptoms and not those for diagnosis alone.

On the other hand, the symptoms representing the so-called diagnosis of disease are only those of a pathological character—often only a small part of this totality; and any method of treatment used to cure the patient that disregards the value and weight of the totality of symptoms must and will be entirely inadequate to fit the requirements of a curative law.

To the same extent would we deplore the miscarriage of justice when the verdict was rendered upon hearing only a part of the evidence before a court of law.

Let us turn now to our first question, viz.: Has that perfect unalterable method or law of cure been revealed?

“Truth for ever on the scaffold,
Wrong for ever on the throne.”

This sentiment is not theoretical, but is, we are constrained to confess, a condition too true.

“History,” says Gibbon, “is indeed little more than the register of the crimes, follies and misfortunes of mankind.”

Truth has seldom been even sufficiently popular to attract the serious attention of mankind from the very beginning of history; and in this day of commercialism the glitter of gold has brought about a condition of moral astigmatism which seems to be contagious, for even the medical profession has great need for wearing the corrective lens.

But so long as truth is unpopular we cannot expect the doctrines of truth to be popular; and when Samuel Hahnemann instituted his medical reformation at the close of the eighteenth century the truths he enunciated were not only received with the strongest incredulity, but, as genius and misfortune go hand in hand, this celebrated reformer of medical science and art, himself, must drink of the cup of bitter tribulation offered by former friend and foe alike.

I think it is Dr. Colton who says: “The most sublime spectacle in the world is a powerful mind vindicating truth in

the presence of its foes and a martyr calmly sealing his faith with his blood."

Though dismayed and wounded by the bitter waves of calumny and persecution, Hahnemann was never discouraged, for he had struck the rock of medical truth and the spring of true medical doctrine gushed forth.

He first proved the nothingness of the old system after eight years of scrupulously careful practice and retired, conscience-stricken, to private life and poverty; but with the firm conviction that somewhere in the universe there was an undiscovered method of restoring health to the sick harmonious with natural law.

By inspiration he experimented with quinine on himself, taking frequent doses to find out its medicinal effect on the body in health, and after repeated experiments with this and other medicines he prescribed them in sickness for similar symptoms with the greatest success, revealing to himself and to the world the only perfect unalterable method of cure, by virtue of the natural law of similars.

Moreover these experiments proved beyond question the three fundamental principles of truth upon which the structure of Homœopathy is reared; all three of which must be strictly observed if the *science* of medicine is to remain a human factor in restoring health to the sick in the shortest, safest and sanest manner.

These fundamental truths are: First, that the only possible way of learning the curative virtue of a medicine is to prove that medicine on those in health; second, that the totality of symptoms *alone* constitutes the disease.

I would here make finer distinction between disease and diagnosis: disease, as we have seen, is the true state of affairs in sickness represented by the totality of symptoms; while diagnosis is represented only by those symptoms which indicate the *pathological state* or tissue changes without regard to the different personal temperaments and idiosyncrasies which may involve the mental, moral and physical parts of the organism.

We have before remarked that the only just verdicts are those rendered after weighing all the evidence before the court; and if the *true* disease is to be known in sickness we must know *all* the symptoms—mental, moral and physical—that can be obtained subjectively and objectively.

Now we will suppose a case of sickness in which the totality of symptoms corresponds to the symptoms produced on a person in health by the medicine known as *Sulphur*.

Be it remembered, it is the *patient* that is to be cured if health is restored, and in this case the natural disease influence has removed the vital force from the health line of harmony in exactly the same direction that *Sulphur* will remove it if administered to a person in health.

Can any proposition of truth be plainer than that the true disease in this case *is*, and should be called *Sulphur*?

Let the diagnosis be known by what the few pathological symptoms represent to the materialist, but let the followers of lawful doctrine call disease by its true and proper name, as represented by the totality of symptoms.

We are not unmindful of the value of diagnosis for purposes of prognosis, but how absurd it is to attempt to restore health to the patient by treating the symptoms of diagnosis alone,—and what honorable court of medical law could announce the curative verdict by exclusion of the most important evidence?

The third fundamental principle of truth demonstrated by Hahnemann in his experiments was—that the curative virtues of medicines are increasingly developed by potentization.

In the first experiments of proving medicines on the healthful subject the crude drug was, naturally, the first used until it was learned too great disorder was occasioned in the system which masked the finer symptoms or prevented their occurrence, as afterward proven when he used the small and smaller dose.

Again, he found in prescribing for the sick the crude medicine caused too severe pathological aggravation, which was avoided by the smaller dose.

Hahnemann did not *discover* the infinitesimal dose, but rather it was revealed to him through careful experiment and observation, proving, too, the law of divisibility of matter which teaches that the spirit-like force of simple substance is released from matter in proportion as its envelopes are removed, thus placing it on or nearer the plane of the spirit-like *vital* force.

This truth is further proven by the fact that formerly considered inert substances brought forth no symptoms whatever in medicinal provings till after the sixth potency was used; and many more symptoms were produced by them in later provings by the still higher potencies.

Moreover, the characteristic symptoms of many of our remedies have been produced only by the two hundredth and higher potencies.

Let me here note a few aphorisms from the writings of Dr. Ad. Lippe, than whom we have no better authority, and which have been verified time after time by the writer and all true followers of the natural law of cure.

Dr. Lippe says: "The followers of Hahnemann accepting the fundamental principle of Homœopathy have, from time to time, given publicity to the results of their experience, and all have found themselves constrained to state that the most brilliant results were obtained from the higher attenuations, and that in some cases, where even the two hundredth potency was not sufficient to eradicate disease, the higher potencies were successfully used; that it was essential never to administer a second dose of the same remedy or a dose of a new medicine till the action of the former dose was fully exhausted; and that this action is often of long duration; that the lower doses never cure when the higher attenuations were administered unsuccessfully; that the duration of disease is very much shortened if the higher attenuations are administered."

We have now, I think, successfully answered in the affirmative the first important question, viz: "Has that perfect unalterable method or law of cure been revealed?" And we now proceed to prove our second query a positive fact, that, stated affirma-

tively,—tho perfection of this curative law *can* be demonstrated beyond a single doubt by the rule of a reason as set forth in the sacred prescription.

This may be best accomplished by relating a few cases of practical demonstration.

We will first mention two cases of acute disease, recently attended.

Case No. 1.—Diagnosis: Diphtheria. Disease: *Lycopodium*. Gertrude N., a girl of eight years.

Father called at my office and said the girl had had bad cold in head for two days. Nose was stopped and she seemed to have fever, which began some time in the night. Cheeks were red. Said there was no sore throat, as he had been watching for diphtheria, inasmuch as some of her playmates had recently been thus afflicted, one of whom had died after antitoxine had been used. I asked what had been done for this girl, and he said some patent "cold cure" had been given and goose grease used externally to throat and nose. I suggested seeing the child before prescribing, thinking she was seriously sick, but he decided to take medicine, and if no better next day would send for me. On the meagre symptoms elicited I prescribed *Nuxvom.* 200, four powders dry on tongue one hour apart, followed by S. L. in water, a teaspoonful each hour. Was sent for following day and found (Nov. 3d): Temp., 103; pulse, 120.

Both nostrils closed with yellowish-white deposit.

Both tonsils and part of uvula similarly covered.

No glandular swellings noticeable. No appetite.

Some soreness externally to touch on both sides.

Breath offensive. Painful deglutition.

High fever all night without perspiration.

Had some thirst and throat felt better from cold drink.

Urine clear, but high colored. Other functions normal.

R. *Lach. c. m.* Two powders on tongue, 1 hour apart, was given followed by S. L. in water, as before.

Nov. 4.—Found general condition worse.

Considerable swelling of submaxillary region, L. side.

Left nostril had been oozing bloody, watery fluid.

Throat deposit had not increased in area.

Other symptoms were unchanged except that warm fluids were more soothing in swallowing.

R. *Lyc.* 200. Four Powders, dry, on tongue, one hour apart, followed by S. L. in water as before.

Nov. 5.—General improvement. Temp. and pulse less.

Had better night—less fever in night.

Swelling on L. side throat and neck had diminished one-half. Able to swallow more nourishment.

Inspection showed less deposit on L. tonsil.

R. Continued S. L. as before.

Improvement was uninterrupted for four days—exudate cleared from L. tonsil first, then uvula and R. tonsil in succession.

Left nostril then opened for breathing and deposit disappeared. Temp. and pulse became normal.

Nov. 10th.—I noticed no improvement for past two days and tongue now was dry with brown streak down center. Pulse and temp. normal.

R. *Lycopod.* 43m. Four powders were given dry on tongue 1 hour apart and S. L. as before.

Nov. 11.—Improvement began. R. nostril cleared and recovery promptly followed, and with it came appetite, strength and good cheer.

This case illustrates the truth observed by Hahnemann, that under the curative law action of the similar remedy the symptoms recede in the inverse order of their coming; and while I had no knowledge of just where this membranous deposit started the order of its disappearance proved to me it began in right nostril possibly a day or so before nostrils became occluded; and had this been known when first prescribed for *Lycopodium* then would have at once stopped the process and restored sooner to health.

• Case 2.—Diagnosis: Diphtheritic Croup. Disease: Lac Caninum.

George C. • Boy of 5 years. Light hair.

Mother brought him to my office in evening, presenting the following symptoms :

Rattling, choking cough. Voice hoarse and husky. Had some difficulty in breathing the night before, with croupy cough in the night; worse before midnight. Slight fever. Sensitive to cool air.

Nov. 11.—R. *Hepar sulph.* 200. Six powders 1 hour apart on the tongue.

Nov. 12.—Was sent for and found patient had a bad night. Was worse after sleep. Had high fever with croupy, strangling cough. Cough tighter with little or no expectoration. Voiceless with sawing respiration. Thirst for cold water. Inspection showed a small white spot one-eighth inch in diameter on left tonsil. Profuse sweat of head and hands. Breath offensive.

R. *Lachesis c.* m. in water, teaspoonful every half hour for four hours, followed by S. L. in water.

Nov. 13.—Had relief over preceding night and day. Less fever and some expectoration of white mucus.

Improvement continued slowly for seven days, but still cough continued at intervals, with husky voice and offensive breath: cough was looser and expectoration of white mucus continued. Throat was clear of deposit.

Nov. 20.—Found all symptoms returned and much worse. Cough tight and loose alternately. Painful to throat and upper chest, without expectoration. Croupy. Respiration a serious matter. Face blue at times. Stridulous and crowing respiration. High fever and pulse rate. Profuse sweat of head and hands. Inspection showed a new deposit, white like china, but small in area, on the right tonsil, similar to what was before seen on the left tonsil.

Lac Caninum c. m. Administered in water, a spoonful every half hour for six hours, relieved almost instantly and restored to normal state in a few days.

Now, to prevent any suspicion on the part of the incredulous that these patients were cured spontaneously of their acute ailments, let me relate three chronic cases briefly.

Case 1.—*Diagnosis* : Paralysis Auditory Nerves from Shock.
Disease : Arnica.

Nellie E., a plump lass of nine years.

The mother related that when a child of four years she had fallen headlong down the cellar steps, landing on the back of her head. Was unconscious for a few minutes, but dazed for several hours afterward. Aside from some external contusion and swelling with the usual soreness apparently no damage was done except that she could not hear at all for a few weeks, but after this period she could hear the loudest noises, and the human voice if raised to high pitch with the mouth of the speaker directly to the ear. Both ears equally deaf. She had been under both hospital and private treatment of specialist, following the injury, till the case was pronounced hopeless. She had had no treatment whatever for four years preceding the call for my service.

Inspection showed normal auditory conditions and there were no symptoms other than the historical, plus the nearly complete deafness, if we except the fact that the mind had not developed much beyond that of a four-year-old.

R. *Arnica* 30—a dose every three hours, during waking hours, for one week, at the end of which time the patient could here perceptibly better; and at the end of one month the hearing was normal; the patient started to school and is now the happy mother of a small family.

Case No. 2.—J. C. S. A man of 35 years. Grocer.

***Diagnosis* :** Optic Paralysis both Eyes with Optic Atrophy.
Disease : Natrum Muraticum.

In Oct., 1901, I was first consulted by this patient and gleaned the following history, viz.: Late in the winter of 1901 he noticed a dimness of vision which gradually increased till the central view of all objects was lost horizontally, so that if looking at a face nothing could be seen but the chin and forehead. Left eye was first affected and the worse of the two. Consulted opticians for three months and had several changes made in glasses during that time.

His vision, however, gradually grew less and he was finally advised by the optician to consult a prominent oculist, which he did at once. The oculist easily diagnosed the case and promised a cure. For five months the patient visited him twice each week, had many changes made in lenses and took many prescriptions of medicine internally, but all to no use. His vision kept gradually diminishing till the left eye was entirely blind and the right eye nearly so, and when the oculist had relieved him of about \$300 he was magnanimously told that "all had been done that could possibly be done by medical science," and "that he would be hopelessly blind in a short time." At this stage the patient called to see me as a "last hope." Not being in the resurrection business I did not promise a cure, but did say to him that if a cure was possible the homœopathic prescription, based on the Law of Similars and rightly applied, would lead him and his lost vision to the light. These briefly are the symptoms I found which showed his disease to be *Natrum muriaticum*, viz.:

No ambition to do anything. Would often sit and cry. Did not want sympathy. Craved condiments, especially salt. Good appetite, yet lost in weight from 135 to 119 pounds. Frequent creeps up and down the back, especially at 10 A.M. Eyes—dry, itching and burning of lids; pupils dilated, and before vision became so bad would see better momentarily by rubbing eyelids and would see rainbow colors around artificial light. Eyes watery at times. Had much squirming sensation in nostrils.

Infrequent doses of *Nat. mur.* in the 200-1,000 and c. m. potencies, serially, brought this patient from 119 pounds in to 145 pounds in four months' time and restored him to a degree of health he had never before enjoyed, and with this metamorphosis came perfect vision to both eyes, which to this day, ten years later, remains unimpaired.

Case 3.—My third and last case to report is that of Mrs. A. M., aged 35 years who thought she would like to know how

to ride a bicycle, an art she only partly accomplished, when she fell from the wheel, fracturing one of her ankles.

It was during the bicycle craze in 1896, and the fracture was properly and promptly set and bandaged by a homœopathic physician. But instead of healing promptly ulceration at the seat of injury began and she was taken to the hospital for more constant and scientific care. After a time, with no good result in sight, amputation of leg was advised by the surgeons and later performed at the upper third. The operation was successful, but the most important part in the proceedings—the *patient* was not cured, and the ulceration process was renewed at the end of the stump and continued.

After residing at the hospital for three months and not caring for another “successful” amputation, which was advised as the only hope, the patient became homesick and departed for home to be relieved at least of this malady.

The stump was treated by applications of “fragrant” iodoform and other ointments for five years, but the patient was neglected for a like period of time, and of course the ulceration continued.

About this time a mutual friend asked my opinion of the case and from what he related of the circumstances I said she should be cured. By this friend’s advice my services should be sought, but the family said we have already had homœopathic treatment, hospital and private, and it would be useless. However, the friend won his point by saying if I did not succeed in curing the patient he would pay the bill.

After an examination I found her disease to be *Silica*,—and we will allow the diagnosis of ulceration to remain undisturbed

The symptoms which proved the disease to be *Silica* were these, viz.:

Swelling, thickening and hardness of the flesh at the end of the stump, with much local heat. Tissue was dark red and purplish, and sensitive to slightest touch. At the end of the stump I found a depression of one inch in depth and as large in area as a silver dollar filled with a greenish bloody exudate,

discharging a very offensive bloody pus. Sharp splinter-like pains extending upward to and above the knee; lancinating at times and worse at night and from cold. Much relief from heat.

Patient would frequently eructate food by the mouthful after eating and preferred cold to hot food.

Silica 200 in infrequent doses was prescribed, and in a few weeks this patient was not only restored to health, but the tissues at the stump assumed a natural condition and promptly healed, and the ulceration vanished. She now wears her artificial limb, but avoids the bicycle and is very grateful to our mutual friend.

And who will doubt that, had *Silica* been properly administered before the limb was amputated, it, too, would have been restored.

These few practical demonstrations of the perfect method of cure through the law of similars can but faintly illustrate the beneficence already rendered and yet in store for suffering humanity by the true followers of Hahnemann. The deaf, the blind and the halt may not be *beyond* the reach of this mighty law of truth, even though they be hopeless when subjected to those methods of cure built upon the hypotheses and imaginations of men.

"The grand and, indeed, the only character of truth," says Sir Jhon Herschel, "is its capability of enduring the test of *universal* experience, and coming unchanged out of every possible form of fair discussion."

Can we, of homœopathic profession, not all trust her—this hand-maid of medical virtue? And in closing I would *again* remind you, it is the harmonies of life that, not only reveal, but will prove to you the good and perfect of *every* problem and the truth of every law.

The harmony of sound is music, the harmony of environment is happiness, the harmony of social conditions is peace, the harmony of mind, body and vital force is health; and the harmony which follows the application of the similar remedy to the similar,

symptoms of disease is the restoration to health (if the vital force be not exhausted beyond the power of reaction.)

But these and all other harmonies exist only because they are integral parts of the natural law;—and the joy of conscience which comes of right thinking, right acting and right living is that harmony which radiates from the spirit of religion in the soul, begetting a faith in some higher power,—the Creator of Law and the Great Physician, who prescribed for the children of men—that we should “prove all things and hold fast that which is good.”—The *Homœopathic Recorder*, January 15, 1912.

HOMŒOPATHIC TREATMENT SUPERIOR IN PULMONARY TUBERCULOSIS.

BY HERBERT C. CLAPP, M.D., BOSTON, Formerly (for nine years)

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The following tables have been carefully compiled from the official reports filed away in the archives of the Massachusetts State Sanatorium at Rutland, and show in a striking manner the superiority of the *Homœopathic* method of treatment. Of course all educated physicians of all beliefs admit that the most important part of the modern treatment of pulmonary tuberculosis, which has been so wonderfully successful within the past comparatively few years, is *hygienic*, and no sane physician nowadays would undertake the treatment of a case without carrying this out in its completest detail. Nevertheless, it cannot be denied that all good and successful physicians, in addition to a careful hygiene, prescribe drugs in most cases, some more and some less, for the relief of symptoms which act as a handicap in the progress of the patient towards recovery. This can easily be proved by observation and by reading the latest text-books and medical journals. If we could cure all cases by hygiene alone, there would be no need of medicine; but the end results show that this cannot be done. In spite of the remarkable gains in the last few years, we even now fail so often that we need

every possible help. When, therefore, some physicians cry out that tuberculosis ought to be treated, not by drugs, but by hygiene, they should not be taken literally, but simply as entering a protest against a blind reliance on medicines supposed to have a miraculous power, to the exclusion, partial or entire, of the most careful hygiene.

Homœopathic physicians, after abundant opportunities for observation, have proved to their own satisfaction the superiority of homœopathic medicines in most cases of disease. If it were not so, there would be no inducement for them to remain homœopaths, as it is policy for any physician to try to get the best results possible. This superiority naturally was more striking in the early days when the dominant school used such enormous doses of drugs, as well as copious bleeding and other depletive measures, than now when the same school has so largely reduced the size of its doses, a reduction admittedly influenced to a great extent by the example of the homœopaths. But even now this superiority is evidenced, although to a less extent, in private and institutional practice. As an example, one of the best of our Massachusetts State institutions, our large Woburn Insane Hospital, which now accommodates more than 1,100 patients, has been under homœopathic management and treatment for more than 25 years and has done splendid work and obtained superior results, and has been a credit to the State.

The Massachusetts State Sanatorium at Rutland, opened Oct. 10, 1898, for the treatment of tuberculosis, was the first institution of its kind on this continent to be supported by public money, and it has since been widely copied. Its success has been great, not only as measured by the number of broken-down men and women restored to useful lives, but also as an educational centre, as has been often pointed out, thus being a powerful agent of prevention.

Since its opening one-third or more of its patients of both sexes have enjoyed, in addition to hygiene, the advantage of homœopathic medication, which a wise Legislature guaranteed in the act creating the institution in 1895.

For the first four years the records of the homœopathic and regular services, from a medical standpoint, were kept entirely distinct, and for each service a separate annual report to the trustees was made. Since that time the statistics of both sides have been united and combined into one annual report. For the purposes of comparison this report for each year has now been divided up into its component parts. As these parts had been constructed on the same form, this work presented few difficulties. More embarrassing was the task of harmonizing and standardizing the reports of the earlier years. For in its first annual report the regular service had no tabulation, and one had to be constructed from what material was accessible; and in the other early years where separate reports were made, the tabulations of this service not only differed in form from the homœopathic service, but also changed somewhat in successive years. Being originally more complicated, they have here been simplified by combination, in order to bring them into harmony not only with the scheme of the homœopathic service, but also with that of most other tuberculosis sanatoria. For instance the classes "improved," "much improved" and "very much improved," have all been combined into the commonly used class "improved." Likewise, "incipient" and "well-marked incipient" into "incipient," the common designation. Likewise "advanced" and "very advanced" into "advanced." By this means, and by this only, comparisons can be instituted with perfect fairness to all, and a conscientious effort has been made to have everything as accurate as possible in this paper.

In the laborious task of preparing statistics Dr. George N. Iapham has been of invaluable assistance.

To simplify the percentages and to make them more quickly grasped, the decimal fractions have been omitted. As, e. g., the percentage 30.97 has been recorded 31 per cent. As for most of the time the deaths were very few, failing patients leaving, the deaths are included in the tables as "not improved." Where the incipient class had been divided into two grades, "incipient" and "well-marked incipient," and 81.4 per cent. of arrests had been noted for the *highest* grade incipients, the uniting of the two grades into one, as is generally done, brings the percentage down to 59.

The separate calculation of the percentage of *incipient* cases which are apparently cured is exceedingly important, because they are the curable cases, while the cure of a far-advanced is exceedingly rare.

MASS. STATE SANATORIUM AT RUTLAND.

Statistics by "RUTLAND" Classification

Number of Patients Discharged and Percentages in

REGULAR SERVICE

For year ending Sept. 30	Results.	Incipient.	Mod. Advanced.	Advanced.	Total.	Per cent All Cases.	Per cent Incipient Cases Arrested or App. Cured
1899.	Arrested or app. cured	27	7	1	35	31	52
	Improved	20	12	22	54	46	
	Not improved	5	0	20	25	23	
	Total	52	19	43	114		
1900.	Arrested or app. cured	39	10	7	56	40	59
	Improved	28	29	19	74	52	
	Not improved	1	6	4	11	8	
	Total	66	45	30	141		
1901.	Arrested or app. cured	70	12	3	85	42	59
	Improved	52	48	8	108	54	
	Not improved	2	3	3	8	4	
	Total	121	63	14	201		
1902.	Arrested or app. cured	58	31	1	90	47	8
	Improved	14	69	8	81	42	
	Not improved	2	18	2	22	11	
	Total	74	108	11	193		
1903.	Arrested or app. cured	96	41	1	132	48	76
	Improved	28	88	6	122	45	
	Not improved	0	14	1	15	5	
	Total	118	143	8	269		
1904.	Arrested or app. cured	101	30	10	141	41	70
	Improved	38	37	111	186	53	
	Not improved	4	2	14	20	6	
	Total	113	69	135	347		
1905.	Arrested or app. cured	65	28	11	104	31	71
	Improved	30	85	85	200	60	
	Not improved	1	7	19	27	8	
	Total	96	120	115	331		
For 14 mos. ending Nov. 30, 1906.	Arrested or app. cured	129	84	10	223	39	71
	Improved	49	140	105	294	52	
	Not improved	2	15	31	48	8	
	Total	180	239	146	565		

If, for instance, an institution contained 10 incipient and 90 far-advanced cases, the percentage of apparent cures among the

MASS. STATE SANATORIUM AT BUTLAND.

Statistics by the "NATIONAL ASSOCIATION" Classification.

Number of Patients Discharged and Percentages in

REGULAR SERVICE.

For year ending Nov. 30.	Results.	Incipient.	Mod. Advanced.	Advanced.	Total.	Per cent All Cases.	Per cent Incipient App. Cured.	Per cent Incipient Arrested.	Per cent Incipient App. Cured & Arrested Combined
1907.	App. Cured ...	90	28	5	123	26	50	37	81
	Arrested ...	55	40	10	105	22			
	Improved ...	34	97	63	194	41			
	Not Improved ...	0	21	25	46	10			
	Total ...	179	186	103	468				
1908.	App. Cured ...	40	13	0	53	13	25	51	76
	Arrested ...	32	70	11	113	40			
	Improved ...	30	88	20	138	33			
	Not Improved ...	7	33	16	56	13			
	Total ...	159	204	47	410				
1909.	App. Cured ...	59	37	0	96	22	55	29	84
	Arrested ...	31	106	7	144	23			
	Imported ...	14	86	20	120	28			
	Not Improved ...	3	34	43	71	16			
	Total ...	107	263	61	431				
Half of 1910. •	App. Cured ...	23	9	0	32	14	27	53	80
	Arrested ...	45	43	3	91	40			
	Imported ...	17	40	11	68	30			
	Not Improved ...	0	23	9	32	11			
	Total ...	85	115	23	223				

incipients might be quite large, while that among all cases would necessarily be exceedingly small. By good rights, hopeless cases ought not to be treated in the same institution with those for whom there is some chance for cure, if the best results are desired. The natural depression acts unfavourably. The numbers in the tables which are not percentages represent the "considered" patients discharged. Those who have remained too short a time—a month, more or less—to be of service statistically, are not "considered" in the tables.

MASS. STATE SANATORIUM AT RUTLAND
Statistics by "RUTLAND" Classification
Number of Patients Discharged and Percentages in
HOMŒOPATHIC SERVICE.

For year ending Sept. 30.	Results.	Incipient.	Mod. Advanced.	Advanced.	Total.	Per cent All Cases.	Per cent Incipient Cases App. Cured or Arrested.
1899.	App. cured or arrested ...	25	4	0	29	37.	64.
	Improved ...	12	12	1	25	32.	
	Not improved ...	2	14	8	24	31.	
	Total ...	39	30	9	78		
1900.	App. cured or arrested ...	53	6	0	59	45.	64.
	Improved ...	28	18	3	49	37.	
	Not improved ...	1	16	7	24	18.	
	Total ...	82	40	10	132		
1901.	App. cured or arrested ...	62	12	0	74	50.	67.
	Improved ...	25	34	2	61	37.	
	Not improved ...	5	6	1	12	8.	
	Total ...	92	52	3	147		
1902.	App. cured or arrested ...	56	9	1	66	50.	66.
	Improved ...	26	29	4	59	45.	
	Not improved ...	3	2	1	6	4.	
	Total ...	85	40	6	131		
1903.	App. cured or arrested ...	99	6	0	105	49.	69.
	Improved ...	39	42	7	88	41.	
	Not improved ...	5	14	3	22	10.	
	Total ...	143	62	10	215		
1904.	App. cured or arrested ...	97	18	2	117	51.	82.
	Improved ...	15	67	7	89	39.	
	Not improved ...	6	13	4	23	10.	
	Total ...	118	98	13	229		
1905.	App. cured or arrested ...	78	9	0	87	37.	61.
	Improved ...	45	82	6	133	57.	
	Not improved ...	5	8	2	15	6.	
	Total ...	128	99	8	235		
For 14 mos. ending Nov. 30, 1906.	App. cured or arrested ...	92	11	3	106	38.	78.
	Improved ...	25	94	25	144	52.	
	Not improved ...	0	12	14	26	9.	
	Total ...	117	117	42	276		

In the early years the homœopathic service preferred the term "apparently cured" for its best results, and the regular service preferred the word "arrested," and yet both terms were

MASS. STATE SANATORIUM AT RUTLAND.
Statistics by the "NATIONAL Association" Classification
Number of patients Discharged and Percentages in

HOMŒOPATHIC SERVICE.

For year ending Nov. 30.	Results.	Incipient, Mod.	Advanced.	Advanced.	Total.	Per cent All Cases,	Per cent Incipient App. cured.	Per cent Incipient Arrested.	Per cent Incipient App. Cured and arrested combined.
1907.	App. Cured ...	65	9	0	74	31·	67·	20·	87·
	Arrested ...	19	37	4	66	25·			
	Improved ...	11	55	19	85	36·			
	Not Improved ...	2	8	9	19	8·			
	Total ...	97	109	32	238				
1908.	App. Cured ...	36	12	0	48	23·	50·	35·	85·
	Arrested ...	25	47	1	73	35·			
	Improved ...	10	49	17	76	36·			
	Not Improved ...	0	0	12	12	5·			
	Total ...	71	108	39	209				
1909.	App. Cured ...	66	6	0	72	32·	68·	22·	90·
	Arrested ...	21	41	9	71	32·			
	Improved ...	8	26	24	58	26·			
	Not Improved ...	1	5	14	20	9·			
	Total ...	96	78	47	221				
Half of 1919.	App. Cured ...	29	10	1	40	31·	59·	28·	87·
	Arrested ...	14	32	7	53	41·			
	Improved ...	6	16	9	31	24·			
	Not Improved ...	0	4	2	6	4·			
	Total ...	49	62	19	10				

designed to mean exactly the same condition. While the statistics were kept by the so-called "Rutland Classification," therefore, these terms were used synonymously. Later, however, when for purposes of comparison with institutions all over the country the "National Association Classification" was adopted, the term "apparently cured" denoted the best grade of results, and "arrested" the second grade. Naturally some of the apparent cures or arrests must be expected to relapse, especially if the patient lives improperly or returns to unhygienic surroundings. •

COMPARATIVE PERCENTAGES.

The following percentages, gathered from the foregoing tables, represent clearly and emphatically the superior results obtained on the Homœopathic side. "One swallow does not make a summer," and a few cases of any one disease, e.g. 25 or 50 or 100, are not a sufficient number from which to draw trustworthy deductions. But when about 6000 "considered" cases are treated in the same institution, side by side, during a period of 11½ years, with such results as are here shown, the food, air, water, exercise, rest, and, in fact, all the surroundings being exactly the same, and nothing being different, except the medication, the most sceptical must admit that these figures mean something.

MASS. STATE SANATORIUM AT RUTLAND.

Percentages by "RUTLAND" Classification "Apparently Cured"
or "Arrested"

(Here used synonymously to indicate the best class in results)

Year	INCIPIENT CASES.		ALL CASES.	
	Regular	Homœopathic	Regular	Homœopathic
1899	52	64	31	37
1900	59	64	40	45
1901	56	67	42	50
1902	78	66	47	50
1903	76	69	49	49
1904	70	82	41	51
1905	68	61	31	37
1906	71	78	39	38
Average	66	69	40	44

Percentages by "NATIONAL ASSOCIATION" Classification
"Apparently Cured" (1st Class) and "Arrested"
(2d Class) Combined

1907	81	87	48	56
1908	76	85	53	58
1909	84	90	55	61
1910 (half)	80	87	54	72
Average	80	87	52	62

EDITOR'S NOTES.

Good News from Chicago.

Our friends in Chicago seem to be reaping a very full share of the crop of prosperity that has recently come to homœopathy in this country. Notice has already been given of the donation of \$75,000 for a nurses' home for the Hahnemann Hospital and of an additional \$30,000 for general hospital purposes. Mrs. Anna W. Phelps has recently presented to the hospital a site for a new building as a memorial to her late husband, E. M. Phelps. The property extends from Prairie to Forest Avenues and is estimated to be valued at about \$65,000.

We are also told that the hospital and college have now at their command over \$500,000, with hopes of still more. With this they will build the new college and hospital, and still have a considerable amount for endowment purposes.—*The New England Medical Gazette*, July 1911.

Human Bodies as Targets.

The German government has caused its soldiers at target practice to fire at human corpses for the purpose of accustoming them to aim at human beings. When this procedure was objected to it was declared that this shooting was by way of experiment made on bodies destined for dissection at the hospitals to test the results of rapid fire. These experiments were considered necessary "in the interests of humanity to enable surgeons to study wounds.—*The New England Medical Gazette*, July, 1911.

Plague. A Query.

For the week ending Dec. 9th there were 8,450 cases of plague reported in India, with 6,583 deaths, a frightful death-rate of 78 per cent. As the stately old writers used to say, "there is food for thought here," namely, that there must be something beyond "the plague bacillus" to account for this awful mortality. The United States medical authorities have been finding, in California, that bacillus on the rats, mice, fleas, ground squirrels, etc., for years, yet there are no cases of its disease in that State. Why? That is the "query." If the bacillus is the sole cause of the plague, why is there none in California, even though the medical authorities are finding it, according to their reports, even in the forests?—*The Homœopathic Recorder*, March 15, 1912.

Ozone for London's Subway Travellers.

A ventilating system designed to supply 80,000,000 cubic feet of ozonized air is being installed in the stations of the London tunnel system. One of the plants has already been completed and is supplying 400,000 cubic feet per hour. This is estimated at 900 cubic feet per person each hour, as against 300 cubic feet, which is the usual allowance in buildings. The air is ozonized by passing it over electrified plates, after which is driven by means of fans to the station and distributed through ducts.—The *Medical Times*, March, 1912.

Lord Lister.

"It is not a profession, not a nation, it is humanity itself which, with uncovered head, salutes you," said Thomas F. Bayard, then ambassador at the Court of St. James, in conveying felicitations to Sir Joseph Lister, who had just been elevated to the peerage under the title of Baron Lister.

With heads uncovered to the wintry blasts the world has said its "Hail and Farewell" to the father of antiseptic surgery, who has just laid down the burden of years and assumed the garb of immortality.

Mankind's debt to Lord Lister is immeasurable. His services to medicine place him at its forefront.

In the recent discussion as to the world's ten greatest men, almost without exception every list which appeared contained the name of Joseph Lister.

Nothing can cover his high fame but Heaven;

No pyramids set off his memories,

But the eternal substance of his greatness.

The *Medical Times*, March, 1912.

Cactus.

Cactus is probably as much abused by homœopathists as is Digitalis by allopaths. It certainly has very great energy and should not be displayed except upon clear indications and modified in size and frequency of dosage as the case progresses. Severe aggravations have repeatedly arisen from the third dilution. Indications: Difficult breathing, suffocating and fainting. Cold perspiration may come on the face, and the pulse during "sinking spells" lost for a

time. Unless there is pain it will seldom be indicated. The pains are severe, shooting from præcordia through left shoulder to finger tips. Palpitation, arhythmyeal or rapid pulse, whichever it be, made worse by beginning motion. The type of pain is a "sensation as if the heart were being held in the grasp of a hand." The hand may alternately contract and close. Dr. Royal makes the following statement: "In two well marked cases, at least, it was useful when the symptoms calling for it had been produced by over-dosing a heart already affected." * * * "In all cases requiring Cactus I have found the characteristic symptom, constriction as if by an iron band, among such symptoms as cold sweat, violent palpitation, attacks of suffocation and inability to lie down."—*The Journal of the American Institute of Homœopathy*, March, 1912.

The Struggle against Alcoholism.

One of the greatest scourges that afflict the human race in all countries is undoubtedly alcoholism. Every day the struggle against this plague is making greater efforts. France, unfortunately, is especially afflicted, at least in certain regions. For many years this matter has engaged the attention of all those who are interested in public health and in the preservation of the vigour of the race. All means of combating it have been sought for, and undoubtedly the best that has presented itself is the limitation of the number of liquor shops. Unfortunately, whenever this question comes up in the Chamber of Deputies, while everyone heartily approves of this limitation, no one dare take the responsibility of putting it to the vote, for the liquor-sellers are particularly influential in politics, so that up to now it has been practically impossible to attack or limit these places. The Chamber of Deputies, having this matter once more before them, has again adjourned the vote upon it. The National League against Alcoholism held a great protest meeting on March 17th, which drew together a large attendance, at which all shades of political opinion were represented. Professor Debove, a former *doyen* of the Faculty of Medicine, was elected chairman. After many speakers had addressed the meeting, M. Joseph Reinach pointed out that the aim to be sought was not only the limitation of the wine-shops, but also to overcome the misery that engenders alcoholism and the insanitary dwelling and environment that favour its development. A vote of censure was passed on the Chamber of Deputies for failing to come to a decision on the matter.—*The Lancet* March 30, 1912.

Hospital Abuse.

For many years past the medical profession in France has been protesting against the ease with which patients in comfortable circumstances obtain gratuitous treatment in the hospitals, doing thus a double injury, not only to the Assistance Publique which they could pay for services, and to the really poor whom they deprive of their places in the hospital service, but also to the medical practitioners whom they thus deprive of a *clientèle* perfectly able to pay fees. Everyone is aware of it, yet in spite of that it seems very difficult to prevent this abuse. The Syndicate of French Oculists has dealt with the matter in a very effective manner. A man comfortably well off was operated on gratuitously for cataract in the ophthalmological department of a hospital. This fact becoming known to the Syndicate of Oculists, the latter made an energetic protest to the director of the hospital establishment, who, after an inquiry that fully established the patient's circumstances, with authority of the minister of the interior, demanded the payment of 1000 francs damages. To avoid the prosecution with which he was threatened the patient had to pay the 1000 francs. The Minister of the Interior, recognising the wrong inflicted on the medical body, authorised the director of the hospital to pay over 500 francs to the treasury of the Syndicate of Oculists.—*The Lancet*, March 30, 1912.

The Art of Medical Prescribing.

A short article written by "A retired Hospital Physician" recently appeared in the *Westminster Gazette* under the title "On Decay in the Art of Medical Prescribing." The writer stated that his main design was to prove that if medical men are to write sound and logical prescriptions they must be properly trained to do so; and he further maintained that there was a gradual decay in the art of prescribing, which had been going on for years, and was the natural result of defective teaching. Doubtless in the days of the apprenticed pupil a sound knowledge of the compounding of drugs was obtained, for to quote the words of the article, "all round him were the weapons of his future warfare: he saw, he handled he weighed." There is much truth in the points that this writer has made, for too much stress is laid to-day on the diagnosis of medical cases and too little on the details of the treatment, especially in regard to the

employment of drugs. There is a matter which he did not happen to mention, and it is one which hospital physicians would do well to caution students concerning. The free use which is made of a hospital pharmacopœia in which the dosage and combination of drugs are obscured under the title of "mistura" or "haustus" is dangerous. The student becomes so accustomed to the sounds of the words "mistura gentianæ alkalina" or "haustus albus" that he forgets the actual constituents of those preparations, and when asked to dictate similar prescriptions is frequently at a loss. We believe also, although we are quite prepared to have the opinion challenged, that the constant compounding of medicines in general practice according to the total quantities of drugs in a 6- or 8- ounce bottle tends to less accuracy than when the details of single dose are set down, so that the exact quantity of each constituent taken by the patient at each dose is borne in mind. The "Retired Hospital Physician" also referred to the manufacture and sale of compound medicines, which certainly save "the busy practitioner from the laborious pain of thinking for himself," but it must be allowed that many of them are good preparations made up in a convenient and palatable form. In a very interesting article, the writer has omitted to state that the medical student has to pass fairly stringent examinations in pharmacy and materia medica, and this was not the case in every medical curriculum in mid-Victorian days.—The *Lancet*, March 30, 1912.

The Virulence and Contagiousness of Tuberculous Perspiration.

M. Poncet gave a lecture, on March 28th, at the Academy of Medicine in his own name and that of M. Miery, of Lyons, on the work of the latter observer in establishing the fact that the perspiration of the tuberculous is virulent and contains the tubercle bacillus. This virulence has been determined in 30.76 per cent. of tuberculous subjects affected with surgical lesions, tuberculous rheumatism, and tuberculous peritonitis—that is, among those with inactive or only feebly active lesions. In a still greater number of cases the presence of bacilli has been demonstrated in the perspiration of the actively tuberculous. This elimination of the bacilli in the perspiration is connected with the frequently septicæmic nature of the tuberculous infection. In short, the sweats of the tuberculous may be considered as crises of bacillary elimination. From

this it may be concluded that the perspiration is a real agent of direct or indirect (e.g., by soiled linen, clothes, &c.) contagion. The necessity for disinfecting all objects that have been contaminated by the sweat of the tuberculous, and of insisting on a separate bed for tuberculous patients, is manifest according to these observers. —The *Lancet*, April 13, 1912.

The Wassermann Reaction in the Diagnosis of Syphilis.

Dr. D. M. Kaplin, in the *Journal of the American Medical Association*, presents a very carefully prepared article in which he gives his impressions of the value of the Wassermann reaction from a study of over 3,200 cases. He states that the impression he has received from almost two years' work with this reaction, and the benefits that physicians and patients derive from its application, is that the value of Wassermann test for diagnosis and therapy has been greatly over-rated. He does not believe that the reaction is sufficiently accurate to enable the practicing physicians to rely implicitly on the outcome of the Wassermann test. He summarizes his conclusions as follows:

1. When a serum is submitted for diagnosis the laboratory report should read "negative" or "positive." No qualifications as to degree are necessary.
2. For diagnostic and therapeutic purposes the laboratory report should always be collated with clinical findings.
3. Negative reports are of value in therapy.
4. Treatment should be stopped for four to six months after the patient becomes clinically and serologically normal and at the end of this period the test should be repeated.
5. All patients cured of syphilis ought to have for preventive purposes a test performed twice a year, and meaning of the medical testimony laid before it.
6. Any reappearance of the reaction even in traces is to be dealt with as under Paragraph 4.
7. Some patients who have had syphilis never lose the positive reaction in spite of any therapy.
8. A negative report obtained on a serum from a suspicious case should defer treatment until the course of the disease decides the etiology, provided there is no danger in delaying treatment.

9. With a positive report one must not lose sight of possibility of another disease being present besides syphilis.

10. In my experience advanced scleroderma and old leprosy are more positive than old syphilis, quantitatively and qualitatively.

11. In active tabs 88 per cent. and in quiescent tabs 44 per cent. of positive reactions were obtained.—The *Journal of the American Institute of Homœopathy*, April, 1912.

The Two Treatments of Pulmonary Tuberculosis Compared.

Dr. Herbet C. Clapp's pamphlet, "Homœopathic Treatment Superior in Pulmonary Tuberculosis," is interesting reading. It is an analysis of the results in about 6,000 cases of pulmonary tuberculosis treated at the State Sanatorium at Rutland. Dr. Clapp writes, towards the end of the pamphlet: "The following percentages, gathered from the foregoing tables, represent clearly and emphatically the superior results obtained on the homœopathic side. 'One swallow does not make a summer,' and a few cases of any one disease, *e. g.*, 25 or 50 or 100, are not a sufficient number from which to draw trustworthy deductions. But when about 6,000 considered cases are treated in the same institution, side by side, during a period of 11½ years, with such results as are here shown, the food, air, water, exercise, rest, and, in fact, all the surroundings being exactly the same, and nothing being different, except the medication, the most skeptical must admit that these figures mean something.

Without going into the matter in detail we might sum up the curative average of the schools under conditions noted in the foregoing quotation: As 52 is to 62 so is the "regular" treatment of pulmonary tuberculosis to the homœopathic in the present day. So, gentlemen, instead of asking the homœopaths to come to you and affiliate, you had better go to them—for the sake of humanity. The *Homœopathic Recorder*, December 15, 1911.

Malta Fever.

Dr. Charles Castellan, of Toulon, discourses of "Malta," "Crete" or the "Mediterranean" fever in the Sept. Oct. number of the *Journal Belge d'Homœopathie*, and also grows sarcastic on the subject, saying that naturally this malady must have its microbe which was promptly found. Following this, he says, it is very probable that a new serum will appear to combat the fever or microbe, because industrialism must have plenty of room "in our age devoted to practical realization, especially pecuniary." In the course of his paper Dr. Castellan says that this variously named fever is one and the same thing, a species of typo-malarial paludal fever, caused by climatic conditions. The doctor has had ample experience in its treatment, which he says does not call for quinine or serums, but for true homœopathic medication. *Cedron*, *Arsenicum*, *Nux vomica* and *Aconite* are generally sufficient, though for pulmonary complications *Phosphorus* or *Bryonia* may be required, as also other remedies as indicated, as for instance, *Antimonium crud.* or *Pulsatilla* for digestive involvement, *Veratrum alb.* for diarrhœa, and so on. In short, this disease, like every other, is best treated homœopathically.—The *Homœopathic Recorder*, December 15, 1911.

Infant Feeding and Sleep.

As to the question of awakening the child at regular intervals for feeding, each individual case must be decided on its merits, but it seems to me that the results of letting the child sleep as long as it wants to have been so satisfactory that I should hesitate to change. There are some children who show a tendency to turn night into day by sleeping for long periods during the day and waking frequently at night. In cases of this type it is well to rouse the child regularly for its feeding during the day in order to try to secure the longer period of sleep during the night, but in ordinary cases there seems to be an unusual freedom from digestive disturbances when the child is allowed to sleep as long as it will, and even when the number of nursings is reduced to four or five in the twenty-four hours the gain in weight is normal.—The *Journal of the American Institute of Homœopathy*, December, 1911.

A Pioneer of Experimental Physiology.

A tablet has recently been placed in the old parish church of St. Mary, Toddington, in memory of the Rev. Stephen Hales, D.D., a former vicar of the parish. According to the *Times*, some eminent living men of science have long sought to discover the place where Hales was buried, and at length a stone recording his death was found in the church porch. The tablet has been placed on the wall of the west porch beneath the tower of the old church. It bears the following inscription: "Beneath is the grave of Stephen Hales. The epitaph, now partly obliterated, but recovered from a record 1795, is here inscribed by the piety of certain botanists, A.D. 1911 'Here is interred the body of Stephen Hales, D.D., Clerk of the Closet to the Princess of Wales, who was minister of this parish 51 years. He died 14th January, 1761, in the 84th year of his age.'" Hales, who was born in 1677, was educated at Corpus Christi College, Cambridge, of which he was admitted a Fellow in 1702-3. While at Cambridge he "perambulated" the country in search of Ray's plants. He became a Fellow of the Royal Society in 1718. He was appointed Minister of Teddington in 1708-9, and was assiduous in the discharge of his clerical duties, enlarging his church, and helping the parish to get a good water supply. He made female parishioners do public penance for irregular conduct. Peg Woffington lived in his parish, but it does not appear that she was subjected to his discipline. He was a neighbour of Pope, and was one of the witnesses of his will. Horace Walpole calls him "a poor, good, primitive creature." This is a curious example of "how it strikes a contemporary." Hales was equally distinguished as a botanist and as an animal physiologist. His contributions to physiology have been summarized by Michael Foster as follows: "He not only exactly measured the amount of the blood pressure under varying circumstances, the capacity of the heart, the diameter of the blood vessels and the like, and from his several data made his calculations and drew his conclusions, but also by an ingenious method he measures the rate of flow of blood in the capillaries in the abdominal muscles and lungs of a frog. He knew how to keep blood fluid with saline solutions, got a clear insight into the nature of secretion, studied the form of muscles at rest and in contraction, and speculated that what we now call a nervous impulse, but which was then spoken of as the animal spirits, might possibly be an electric change. And though he accepted the current view

that the heat of the body was produced by the friction of the blood in the capillaries he was not wholly content with this, but speaks of the mutually vibrating action of the fluids and solids in a way that makes us feel that, had the chemistry of the time been as advanced as were the physics, many weary years of error and ignorance might have been saved." Mr. Francis Darwin, in an account of Hales contributed to the current number of the *Parish Magazine*, says: "Stephen Hales has been called the 'father of physiology,' and he deserves this title in regard both to animals and plants. His experiments on the blood pressure of animals are second only to Harvey's work on the circulation. In the domain of plant physiology he is equally great. In all his researches he combined a belief in the design of the Creator with a passionate desire to understand the mechanism of living things. Thus he treated the manifestations of life as things to be weighed, measured, and analysed in the laboratory. It is this point of view that gives his work so modern a character and entitles him to be considered one of the founder of a rational science of biology. Although he loved science for its own sake, it is equally clear that he was dominated by a permanent desire to use his knowledge for the benefit of his fellow creatures. Water supply, ventilation, the distillation of potable water at sea, the preservation of food on long voyages, the treatment of at least one disease—the stone—and especially the harm arising from intemperance in the use of alcohol, all received attention. It is impossible to read his works without mingling personal affection with the respect inspired by his intellect.—The *British Medical Journal*, January 13, 1912.

The Painlessness of Death.

The final passage of that which is variously denominated the soul, the personality or the ego from the present realm to future one is a matter that sooner or later comes to all. Anything that tends to mitigate the fear which some individuals may have of this passage from the strictly physical side may be of interest. In a recent number of the *Dietetic and Hygienic Gazette*, quotation is made from a paper by Oldfield that appeared in the *Herald of the Golden Age* :

"Bacon puts it this way : 'It is as natural to die as to be born, and to a little child the one is as painful as the other.' By this I think he means that it is 'no more painful,' and with this view of natural birth and death I wholly agree. So little does the apparently painful process of being born affect us that it does not ever leave the faintest trace upon our memory.

"The apparent painfulness of a natural death is equally illusory, and I believe that we shall awake in equal forgetfulness of the sensation of dying. Again and yet many times again I have seen a great fear of dying in the earlier stages of the last illness, but it was only a transitory phase, and ere long the kindly comforting of Nature brought peace to the mind and unconsciousness of pain long before the final passing had come.

"Nature is wonderfully beneficent, and with no niggard hand does she pour out from her pharmacy stores hypnotics more potent than the drowsy poppy, more rapid than the speedy chloroform, and more lasting than the charms of magic or of drugs. In forest and jungle, in the burning desert and on the lonely moor alike, the soothing voice of Nature is heard in the hour of death singing her lullaby of rest and peace and sleep profound.

"I believe that under all conditions and in all its manifold forms the angel of death is preceded by a handmaid bearing a bowl of the mystic water of Lethe, which she sprinkles with generous freedom as she passes. Death, then, is never seen and never known, and those who fear the pains and the grim visage of death do so without cause and need, and in the day of their own trial will find their forebodings have all been vain."—*The New England Medical Gazette*, August, 1911.

Gleanings from Contemporary Literature.

HOMŒOPATHY : ITS ACTIVITIES AND OPPORTUNITIES.

BY EDWARD F. ALLEN, M.D., CHARLESTOWN, MASS.

I conceive that an address by the president of this Association should have for its main object, something which shall tend to benefit the School, and put new courage and more enthusiasm into its alumni.

We are hearing and occasionally reading some things about our form of practice, and the conduct of our medical schools, which might cause some to think that everything bearing the label homœopathic was rapidly going to the dogs.

Particularly was this idea brought out in the report of the Carnegie Foundation, where it is stated, "that in 1900 there were twenty-two homœopathic colleges in the United States: to-day there are fifteen: the total student enrolment has within the same period been cut almost in half, decreasing from 1909 to 1009; the graduating classes have fallen from 413 to 246."

"The ebbing vitality of homœopathic schools" is asserted to be "a striking demonstration of the incompatibility of science and dogma," and the conclusion drawn seems to be that our method of practice is shortly to disappear.

We are charged with being unscientific. Please name for me any other system of medicine which has claimed the attention of the public during the last one hundred years, that is more scientific. Was the painstaking labor of the fathers in scientifically proving their drugs on the healthy human body, before using them to relieve the sick, unscientific? When first undertaken by Hahnemann, this procedure was the first really scientific method ever undertaken in the medical world to positively learn how drugs should be applied in the treatment of disease. The foundation then laid is still firm and solid, and I believe can be made more so by applying the modern methods of investigation. Every now and again some investigator comes across a new grain of truth tending to more and more prove the soundness of *similia* and its application.

Again can not the strictures applied to our school by the report of the Carnegie Foundation be just as truly applied to all others? I think it could be shown that other colleges besides our own have gone out of business during the last decade, and, too, the student body as a whole is not so large as it formerly was. I, for one, gladly welcome any movement from whatever source which will tend to raise the standard of medical education in this or any other country, and if we of the homœopathic school are remiss in any particular, it behoves us to amend our ways. But to say that the law of *similia similibus curantur* is destined for an early death, is to assert what is not true and never will be true.

It is my purpose to show some encouraging events which have taken place during the year just passed, that will serve to prove that an optimistic view of this whole subject is justifiable. Personally I like the positive side of any question. None of the great work in this world is ever done by those who constantly dwell in the shadows, see nothing but the dark side, and are for ever raising objections. We can not always see the end of the road, but we can at least keep moving, and trust somewhat to the future for developments.

What we most need, I think, is a real renewal of faith in our cause, a disposition to do or die, so characteristic of the founders of Boston University School of Medicine.

I have caused the whole field of our literature to be carefully searched for any authentic contribution to homœopathy or its institutions during the passed year, and I confess that I am surprised at the many important events which have taken place. My search only goes to show that the people have faith in us, even if some of us seem to have lost faith in ourselves.

At the risk of wearying you I will take up this subject by States.

MASSACHUSETTS.

The *New England Medical Gazette* of January, 1910, reported the completion in Worcester of the new Hahnemann Hospital on land adjoining the older building, and with accommodations for thirty patients.

At the 70th Semi-Annual Meeting of the Massachusetts Homœopathic Medical Society, October 12, 1910, Dr. S. H. Calderwood reported that Boston University School of Medicine had received an offer of \$50,000 conditional upon the subscription of an equal amount by July 1, 1911. About \$25,000 of this amount he said, was already pledged.—*N. E. Med. Gaz.* Nov. 1910.

It was reported in the January, 1911, *N. E. Med. Gaz.* that the rate of recovery at Westborough Hospital for the Insane for 1909 was 18.24 per cent. of the commitments for the year, while at the McLean Hospital, which ranked second, the percentage was 17.72.

The City of New Bedford is to have a homœopathic hospital through a bequest made by Mrs. Lucy P. Goff who died January 27, 1911.—*New Eng. Med. Gaz.*, April 1911.

The statement was made in the *N. E. Med. Gaz.*, April 1911, that the cost of medicines at one time reaching \$50,000 at the Massachusetts General Hospital, has now fallen to \$13,000 a year, a decrease attributed largely to the influence of Homœopathy.

A comparison of results obtained under allopathic and homœopathic treatment respectively, at the Massachusetts State Sanitarium at Rutland, shows that of all cases treated during the past three and one-half years the average percentage of apparently cured or arrested cases was sixty-two for the homœopaths and fifty-two for the allopaths.—*The New Eng. Med. Gaz.*, September, 1911.

THE JOURNAL OF THE AMERICAN INSTITUTE OF
HOMŒOPATHY,

July, 1910.

CORRESPONDENCE.

To the Editor :

Mrs. Robert Dawson Evans, of Boston, has recently made a donation of \$200,000 for the purpose of erecting an Institute of Clinical Research and Preventive Medicine in memory of her late husband. This Institute will be under the direction of the Massachusetts Homœopathic Hospital, and will be for the mutual benefit of that institution and the Boston University School of Medicine. It will be built upon a plot of land immediately adjoining the medical school, with which it will be connected by a passageway, and will also be connected with the hospital by a subway.

The object of the Institute will be the investigation of all phases of clinical medicine as they are allied to methods of laboratory study, including particularly work upon the question of cancer, its prophylaxis and its curative treatment.

As planned, the building will consist of a large structure four stories high, with a roof sun-parlor. The first floor will be devoted to auditoriums in which public lectures will be given, and to the various administrative offices.

On the next floor will be wards for neurological patients forming a psychopathic department. The third story will also be devoted to wards for patients who are being studied and treated by the various members of the staff of the Institute, including patients with inoperable cancer, sarcoma and various other form of disease at present considered to be incurable. The uppermost floors will be devoted exclusively to laboratories of pathology, bacteriology, physiology, chemistry and drug pathogenesis.

The idea is to provide a place in which the various diseases may be carefully and scientifically studied, and in which the value of the various forms of treatment may be investigated in the laboratories. Detailed plans are now being made, and it is expected that the active work upon the structure will be shortly begun.

Dr. Angus MacDonald of the class of 1876, one of the oldest alumni of our School, passed away May 31, 1910. He was a good man, a good physician and a good homœopath. He served for many years in the medical clinics of the Out-Patient Department of the Hospital, and he was always deeply interested in the welfare of the School. In his will he did not forget his Alma Mater. He left the tidy sum of \$1000, to Boston University School of Medicine and this amount has recently been paid to the treasurer. I shall request that you all rise in your places as a tribute to the memory of Dr. Angus MacDonald.

At the laying of the corner stone of the Robert Dawson Evans Memorial Building, February 4, 1911, Mayor Fitzgerald commented on the fact that since the foundation of the Massachusetts Homœopathic Hospital more than 50,000 persons have been treated there.—*New Eng. Med. Gaz.*, March, 1911.

The Clark ward for Children of the Massachusetts Homœopathic Hospital has been re-opened, and has a capacity of thirty beds.

The report of the Massachusetts Homœopathic Hospital announces that during 1910 there were 5,405 in-patients treated, since the opening of the Hospital of 54,430. The total expenditure for 1910 was \$192,156.99; the number of beds, 325; the weekly per capita cost, \$13.37. The total number of patients treated in all departments of the Hospital has been 20,289, an increase of 1,011 over the number treated the preceding year. Of this number 483 were treated at the Haynes Memorial (contagious), 12,036 at the Out-Patient Department.

Boston University School of Medicine, January, 1911.

It is with pleasure that we call your attention to the gratifying and creditable record made by graduates of Boston University School of Medicine before the Massachusetts Board of Registration in Medicine during the year 1910. All of the applicants for registration from this school passed the examinations successfully, thereby making for the school a record of 100 per cent. The average percentage obtained by our graduates was 78.8, a mark not reached by any other of the New England medical schools. Thus was a double record made.

The tabulated results are as follows:—

			Average per cent.	Percentage of failures.
Boston University	...	...	78.8	...
Harvard	...	...	78.7	4.8
Dartmouth	...	...	77.8	10.0
Tufts	...	...	76.2	10.14
College of Physicians and Surgeons, Boston			65.7	78.3
Massachusetts College of Osteopathy	...		71.2	26.3

Medical Advance, April, 1911.

NEW YORK.

When the 50th Anniversary of the New York Homœopathic Medical College and Flower Hospital was celebrated in June, 1910, more students were reported in the college than any year since 1880, and in the following November the largest freshman class in the history of the College was the cheering news. During 1909, Flower Hospital ambulances answered 6,004 calls, and there were 3,200 patients treated in the Hospital, 41,176 treated in the dispensary, and 7,244 visits made by doctors and nurses.

In March, 1911, the *Medical Century* stated that the New York Homœopathic Medical College had raised a sum of \$10,000 to equip the bacteriological laboratories.

New York Homœopathic Medical College attributes 80 per cent. of the increase in its enrolment of students to the influence of its alumni—*The Chironian*, July, 1910.

The *Critique* of Denver, Col., February 1, 1910, reports that Mr. Mitchell Valentine left \$2,000,000 to be divided between the Hahnemann Hospital and the Presbyterian Hospital of New York City.

In the April *Pacific Coast Journal of Homœopathy*, Dr. Arndt reports that the stockholders of the new Buffalo Homœopathic Hospital being built there, have insisted that "Homœopathic" form part of the name of the hospital, and that it be for homœopaths only.

NEW JERSEY.

In September 1910, it was reported (*The Hahnemannian Monthly*) that the profession in Camden, New Jersey, aided by friends, had raised \$108,000 for the erection of a new homœopathic hospital in South Camden to supplement the work of the West Jersey Homœopathic Hospital in Camden.

The Jour. of the Amer. Inst. of Hom. for May, 1911, reports that at the regular meeting of the Essex County Homœopathic Medical Society of new Jersey at Newark, in April, Dr. Arndt's address on Homœopathy resulted in the offer of Dr. James Krichbaum of Montclair to be one of a hundred men to donate 1,000 to found a non-sectarian laboratory of scientific research to prove or disprove the relation between homœopathic and modern serum therapy.

DELAWARE.

The annual report of the Wilmington Homœopathic Hospital issued in November, 1910, mentioned gifts to the Hospital of \$20,000.

The re-opening of the Hospital after improvements costing \$25,000 took place October 14, 1910, and the new nurses' home was opened ten days later.

PENNSYLVANIA.

Pennsylvania is claimed by its State Society to be the "Keystone State of Homœopathy" and offers in proof the fact that whereas with almost 10,000 allopathic physicians in the State their State Society turns out at annual conventions only about 400, the homœopaths with only 1,500 in the State get out from 200 to 300 at annual conventions.—*Hahnemannian Monthly*, Oct. 1910.

The old building of the first homœopathic medical college in the world, at Allentown, Pa., was recently torn down to make way for other buildings. On opening the box in the corner stone it was found to contain *The Organon* only.—*Cleveland Med. and Surg. Reporter*, Feb. 1910.

Eighty thousand patients have been cared for within the walls of the old Homœopathic Hospital in Pittsburgh, founded in 1866.—*N. E. Med. Gaz.*, April, 1910.

The new Homœopathic Hospital at Pittsburgh has a present capacity of 160 beds, and a fine three story nurses' home.—*Ibid.*

Hahnemann College Hospital of Philadelphia, during the year of 1909 to 1910 treated 3,000 in-patients, 21,000 dispensary, and 9,000 emergency cases.—*North Amer. Jour. of Hom., Oct. 1910.*

Hahnemann Medical College of Philadelphia has a new receiving ward (then building), four stories high, costing \$60,000. Reported in *North Amer. Jour. of Hom., Sept. 1910*, and also in the September *Hahnemannian Monthly*, the gift of the \$100,000 Hering Professorship of Homœopathic Materia Medica and Therapeutics.

In the February, 1911, *Hahnemannian Monthly*, was reported the gift of \$2,000 for a laboratory for clinical research work in medicine to Hahnemann Medical College and Hospital of Philadelphia by Mr. Walter E. Hering.

The *Hahnemannian Monthly* for August, 1910, reported the gift of \$125,000 in the form of a bequest by Mr. W. Elkins.

ILLINOIS.

Hahnemannian Hospital of Chicago, has received a bequest of \$75,000 for a nurses' Home and \$30,000 for general purposes.—*Pacific Coast Jour. of Hom., June, 1910.*

At the "Home Coming Day" for the Alumni, Dec. 5, 1910, the offer of \$200,000 to Hahnemann Medical College of Chicago was announced conditional only on the alumni raising \$50,000.—*The Critique, Jan., 1911.*

Mrs. Anna W. Phelps has presented Hahnemann Hospital of Chicago with \$65,000 site for a new hospital. A new Hahnemann College building will be near it, and the old building sold for business purposes. The Hahnemann Hospital and College have now at their immediate command \$550,000 and more in sight, for the new buildings and endowment.—*Medical Century, May, 1911.*

OHIO.

The Women's and Children's Free Medical and Surgical Dispensary in Cleveland, one of the oldest homœopathic dispensaries in the country (1878), put in view and complete equipment for ear, eye, and throat work in January 1910. About 3,000 a year are treated at this dispensary.—*North Amer. Jour. of Hom., Feb., 1910.*

The Ohio State Homœopathic Medical Society in May, 1910, reported a membership of 400, and a balance in the treasury of \$500.—*North Amer. Jour. of Hom., June, 1910.*

"There is nearly 100 per cent. larger enrolment at Cleveland-Pulte Medical College this year than last. This with a freshman class of nearly one hundred at the New York institution, and gains in all other homœopathic schools in the country, is pretty clear and convincing evidence that old Mr. Homœopathy is not entirely eliminated from consideration in the selection of a medical education."—*The Critique, Editorial, Dec. 1, 1910.*

MINNESOTA.

St. Paul, Minn., has a Women's Homœopathic League organized three years ago, and now with a membership of over eighty, composed largely of the views of homœopathic physicians of Minneapolis and St. Paul, its object being the advancement of homœopathy and all pertaining to it, the support of its schools, hospitals, and the welding together of homœopathic interests.—*Jour. of the Amer. Inst. of Hom.*, Feb., 1911.

MICHIGAN.

The annual report of the Homœopathic Hospital of the University of Michigan has appeared. The visiting staff is made up of the Faculty of the Homœopathic Department of the University. In ten years the work of the Hospital has increased from 315 in-patients and 423 out-patients to a total attendance of 2,587. In 1899 the hospital earned \$9,000, and in 1909 the earnings have increased to almost \$36,000. When we consider that the normal capacity of the hospital is ninety-six beds this state of affairs is wonderfully satisfactory and encouraging. Patients were received during 1909 from seventy-eight out of the eighty three counties in the State, and a number of patients from sixteen other States. All occupations were represented and all classes of diseases were treated; 2,178 operations were performed, and the cases totalled up 3,848. Thirty-eight nurses were in the training school, of whom eleven were graduated in 1909. The report is extremely satisfactory from all standpoints.—*Jour. of the Amer. Inst. of Hom.*, July, 1910.

The Homœopathic Hospital of the University of Michigan reports for the year 1910 its capacity taxed to the utmost, even the reception room being used for patients at times. In 1909 and 1910, \$36,000 were turned into the University treasury, an increase of four-fold over ten years ago.—*North Amer. Jour. of Hom.*, March, 1911.

CALIFORNIA.

Dr. Florence N. Ward has opened a new private sanatorium in San Francisco. It is perhaps the most completely equipped private institution west of the Rocky Mountains.—*Ibid.*

GENERAL.

When, at the 66th Annual Session of the American Institute of Homœopathy at Pasadena, 1910, Dr. H. R. Arndt was elected Field Secretary, over \$5,000 were pledged in one hour for the support of his propagandistic campaign.—*The Critique*, Aug. 1, 1910.

The Iowa Homœopathic Journal says editorially (Sept. 1910): "The homœopathic profession is not overcrowded; in fact every State in the Union has lots of splendid openings, and is loudly calling for homœopathic physicians. Many large towns up to 30,000 population have no homœopathic physicians in them. It is with difficulty we can get internes to man our hospitals because the recent graduates have such splendid locations offered them that they cannot resist the temptation to get into practice. It is almost impossible to sell a homœopathic practice

to any but an old school man, because there are so many good openings for which nothing has to be paid."

In an address to the Homœopathic Medical Society of the country of New York, Dec. 12, 1910, Dr. H. R. Arndt said; "There are thousands of openings in the middle West, in the South—cities of 25,000 or 30,000—that hardly know what homœopathy is. Texas has hardly enough homœopaths to make a corporal's guard. The big State of Washington is begging for men, and California, with five or six homœopaths scattered all through the country, only needs bright young men to come and wait a little while. *Chironian*, Jan. 1911. (Mem. The population of the State of Washington has increased 120 per cent. in the last decade, and of California, sixty per cent.)

The Jour. of the Amer. Inst., May, 1911, reports seventeen homœopathic colleges in the United States, twenty-one homœopathic journals, fifty-one homœopathic dispensaries, fifty-six general homœopathic hospitals, forty-two special and private homœopathic hospitals, forty-eight homœopathic sanatoria.

The Critique, Feb. 1911, announces the organization of the American Institute of Pathology, W. H. Wilson, M.D. of Chicago, President, and W. H. Watters, M.D., of Boston, Vice-President. This society will meet at Narragansett Pier in connection with the Institute.

At the trustees' meeting of the American Institute of Homœopathy at Cleveland, Dec. 17, 1910, it was reported all debts paid, and dollars 1,500 in the treasury.—*North Amer. Jour. of Hom.*, Feb. 1911.

The Southern Homœopathic Medical Association, held its 27th session, Dec. 6, 1910, and reported 200 members, representing thirty-six states in the Union.—*The Jour. of the Amer. Inst. of Hom.*, Jan, 1911.

The 67th Annual Session of the American Institute of Homœopathy will be held at Narragansett Pier, June 25 to July 1, while the 18th Quinquennial International Homœopathic Congress will be held in London, July 17 to 22 inclusive. This is a double opportunity to advance the cause of Homœopathy, by one's presence and hearty co-operation in the work.

The Dominion of Canada is growing very rapidly. Last year 150,000 Americans went there, and 500,000 from the other side of the Atlantic. Montreal is a city of 600,000 inhabitants, and only ten homœopathic physicians.—*Chironian*, March, 1911.

"The average medical practice in this country is said to yield less than dollars 700 per year, and the average graduate of the old school stays in the practice of medicine less than five years before he becomes convinced that he was only dreaming when he saw in the practice of medicine a royal road to wealth. Is this true of the homœopathic school? So far as we are able to carry this investigation, the average income of the representatives of our school is more than double that of the old school."—*Medical Century*, Feb. 1911.

In January, 1910, the Journal of the Institute reported a membership in the Institute of, in round numbers, 2,600.

GREAT BRITAIN AND FOREIGN.

There are thirteen homœopathic hospitals, great and small, in England. —Dr. Burford in *Homœopathic World*, June 1, 1910.

The 60th Annual Report of the London Homœopathic Hospital, noted in the *Homœopathic World*, May 2, 1910, gives the number of out-patients for the year as 11,629 and in-patients as 1,063.

The London Homœopathic Hospital has completed a new wing at a cost of dollars 150,000; the capacity of the new and old buildings will be 170 beds, the old having 101. —*Pacific Coast Jour. of Hom.*, Feb. 1911. The same Journal says the King Edward's Hospital Fund for London Hospitals has made a grant of dollars 2,500 to the above hospital for the new Nurses' Home.

A new homœopathic hospital was opened in Southport, England, Feb. 1910. —*The Hom. World*, April 1, 1910.

The *Journal of the British Homœopathic Society*, a quarterly, ceased publication with the October 1910 number, but a new journal to contain the papers of that society, and papers from other prominent societies etc., began publication January 1911, and will be issued monthly.

The Glasgow (Scotland) Dispensary only opened one year, was reported in the *Homœopathic World*, September 1, 1910, to have cared for 2,185 patients.

There are six homœopathic periodicals in active circulation at the present time in India, besides a flourishing institute of drug proving of indigenous remedies. —*Medical Century*, Jan., 1910.

The Mrs. William Butler Memorial costing dollars 20,000* was reported in the September, 1910. *Medical Century* as recently opened at Baroda Camp, Gujrat, India, Dr. Belle, J. Alled, Lit. B., M.B., B.U.S.M. 1904, Superintendent.

The Boston Herald of May 8, 1911, says that dollars 1000 have been contributed to the above mentioned work, by the recently organized Medical Women's Association for Aiding Women in Medical Work in Foreign Countries.

A South African Homœopathic and Biochemic Association was formed at Cape Town, South Africa, November 23, 1910, to support, extend, and develop Homœopathy by the establishment of fully qualified homœopathic hospitals and dispensaries, and distribution of homœopathic literature. — *The Hom. World*, Feb. 1, 1910.

The first eleven months of the Capetown Dispensary, started by the above Association, showed an attendance of 3,688 patients; all expenses paid, and six public lectures given on homœopathic and biochemic materia medica. —*Ibid*, January 2, 1911.

Sidney, N.S.W. Homœopathic Hospital in its report for the year 1909, announced that it had treated 4,236 out-patients, 193 in-patients, and had a balance of dollars 1,500 in the treasury. — *The Hom. World*, Sept. 1910.

The *Medical Century*, for March, 1910, announced the establishment of the first homœopathic medical society in Sweden in Goteborg.

The homœopaths in the Netherlands are raising a fund to build a homœopathic hospital.—*Hom. World*, Dec. 1, 1910.

A new homœopathic journal, *La Critica*, was issued in Florence, Italy, in January 1910, and is published bi-monthly.

In view of the foregoing, it seems to me that anything but a spirit of enthusiasm for our school and institutions is entirely out of place.

As for ourselves here in New England, the outlook is more than encouraging. We have a good substantial nucleus for an Endowment Fund for the School, and it is our bounden duty to see that this fund grows in a healthy manner.

Through the munificent liberality of Mrs. Evans, the new clinical research building is now nearing completion, and by the re-opening of the School in the fall, or soon after, will be ready for occupancy. I am afraid that most of us do not fully appreciate what a grand uplift this new institution is surely going to be to the Hospital and to the School. Given to the Hospital, the School is bound to benefit most, for in it the students are to have every advantage for study and research under the direction of competent investigators. Here is afforded an opportunity for the study of the many problems which perplex the medical world to-day, and who shall say what brilliant results may not be reached to redound to the credit of the school and its workers?

Think for a moment of what one man has done for the pathological department of Boston University School of Medicine in the short space of ten years, and it is not a far cry to something in the future which shall make us all proud to remember that this is our School, and this work our work.*

It is our plain duty to give this new institution our hearty support, make this great gift a credit to its donor; a benefit to the people of New England, and a means of pushing our school and its institutions into the very forefront of medical life in America. I have only one regret about the whole thing—there seems to be no place in any part of the edifice where the anatomical department is needed.

May I make a prophesy? Through the work which will be done in this new building, I believe the School will develop as it never has before. Here are going to be advantages for study which few medical schools in this country possess, and in search of these advantages are going to come in classes of fifty, seventy-five, and, may I not say, even a hundred.

In closing I want to say just a few plain words about loyalty. In this word are comprehended all the duties an alumnus owes his school. If he is loyal he always has a good word for his alma mater. He likes to talk about her, and he remembers with feeling of gratitude what she has done for him. He thinks of her as a great living entity, with a

vital organism, with vast intelligence, capable of manifesting a maternal solicitude for his future welfare wherever he may be.

He has in return the same solicitude for her well-being, and he resents any imputation that his school is not the equal of any other. He is always ready to recommend her services to any prospective student, and he takes just pride in the future success of all her graduates.

Again when the call occasionally comes to help in a financial way the institution which has made him medically all that he is, he responds gladly to the extent of his ability, and with a feeling that it is plain duty.

If we had a body of alumni which would, as a whole, and every time, stand back of our School in the way I have indicated, we would have no cause for even a suspicion as to what the future had in store for us. Our School would be as strong as the "Everlasting hills," and we could say as they do in New York, the sixty per cent. of each entering class is due to the loyal work of alumni.

Yes, our alma mater is going on in spite of all obstacles. She has trained many good physicians in the years gone by ; she will train many good ones in the years to come.

God bless her !

The New England Medical Gazette, September, 1911.

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CONSTIPATION.

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Constipation is the "bete-noir" of our modern civilization, the direct result of our strenuous life, and the bug-bear of the busy doctor. The word constipation from the latin *con*, meaning *with* or *together*, and the verb *stipare*, to *press* or *crowd*, is here used by common consent to describe a condition of the excrement, differing from the normal, both in consistency and also in manner and time of its expulsion.

The term obstipation differs from the former in its prefix, which changes its meaning slightly, but by common consent is used to describe or define a more serious condition, dependent upon an actual narrowing of the calibre of the gut itself, due to a strictured condition or to the presence of a morbid growth in the bowel offering an actual obstruction to the passage of the fæces.

What is normal? The hard and fast rule adopted by physiologists requiring every normal human being to have an evacuation of the bowels once, or oftener, in every twenty-four hours, or be classed as constipated, has resulted in a good deal of confusion regarding the term, and not a little mischief; for no tenet is more firmly rooted in the popular mind than this, and to this fallacy

alone, in my judgment, is due the reckless use and abuse of the thousand and one alluring and never failing cathartics, which "work while you sleep," and without which you are surely on the road to an untimely grave.

The term constipation is necessarily a relative one, meaning in a word, a deviation as regards the passing of the excrement from the normal. What is the normal? Many persons are laws unto themselves in this respect, and can allow an interval of a week or more between the movements and yet suffer no ill effects. In spite of this, Tilbury says, "If a person goes more than three days without a movement in the bowels he should be classed as constipated." Is not this quite or nearly as arbitrary a rule as the twenty-four hour one? He stated that the time, regularity, or interval passing between time for defecation, is largely a matter of education and habit; that once in twenty-four hours is the rule, radical departures from this rule are neither uncommon nor prejudicial to a state of perfect health. These promises will be admitted by most physicians. If this be true, in defining constipation would not something like the following be fairer or more nearly correct?

Author's definition. A condition of sluggishness in the passage of the fecal excrement whereby the deviation from the usual or normal is sufficient to impair both the comfort and health of the individual. The regularity and time of defecation is dependent in most instances on habit, and the habit in turn is a matter of early education. Peculiar and unusual forms of diet enter into the causation of the trouble, but do not influence the abnormal condition a hundredth part as often as the acquired habit itself.

Deviation from normal habit. Accurately reported and entirely reliable instances are recorded of great deviation from the normal as regards time of retention of fecal matter. One instance is given where the interval between defecation was extended from two weeks to four months, (Matthews, page 58); a case where the interval was eight months and sixteen days, (Amer. Jour. Med. Science, Oct. 1874); a case where the interval was once in two years, (half yearly abstract Med. Science, Vol. xxi, page 275); a

case when the interval was once in three years, (Med. Gaz. London, 1843, Vol. xvi, page twenty); a case where the interval was once in 14 years, (Rec. Phil. Med. Museum, 1805, Vol. I, p. 305). I had one case in my own practice where the interval was six weeks.

While these cases are in one sense abnormalities, and can be considered in the light of medical curiosities, they prove beyond question the fact that the colon, the sigmoid, and the rectum, are all tolerant of great dilatation, and under peculiar circumstances can put up with and can take care of an immense amount of faecal matter, without absolute injury to the health of the patient, or even resulting in death.

For convenience of description, the subject of constipation can be treated under two grand divisions—acute and chronic.

Acute constipation. The acute variety may arise from various causes. It differs from the chronic variety, as its name indicates, from its more or less sudden invasion. It may be produced mechanically by obstruction arising from the introduction of some foreign substance either by the mouth or rectum. The obstruction on the other hand may arise from intussusception of the bowel, from a calculus or twisting of a bowel on its lig, or from a hernia. On the other hand this acute condition may arise as the result of some co-existing acute disease, usually of an inflammatory character, like typhoid fever, or peritonitis. Affections of the brain, like meningitis or apoplexy, are frequently responsible for the acute attacks of the malady. While these are many times serious enough to cause death, and always cause much anxiety, once an accurate diagnosis is made, which must include the cause of the trouble, a step in the right direction has been taken, and the disease is usually found amenable to proper treatment.

Chronic variety. Chronic constipation is a far more common, if not more serious trouble, coming on insiduously, the patient drifting along until the trouble is so firmly seated as to become a distinct menace to his general health, demanding the most pains-taking study as to the causes responsible for its existence,

and an equal amount of time and labour to effect a cure. The etiology of chronic constipation runs along in similar lines to those already mentioned in speaking of the acute variety, except that the causes are more varied and far reaching. Illoway divides these causes into four classes.

Author classifies disease into two grand divisions. In my judgment they can be put into two grand divisions, simplifying things somewhat. In the first, we should include all obstructions, malformations, and diseased conditions at the anal outlet, the rectum proper, the sigmoid and the colon. In the second division should be included all diseased conditions of the system foreign to the localized parts and to the existence of which constipation is but a result.

First variety. In the first variety will be included all cases of actual narrowing of the calibre of the gut, due to cancer, syphilis, ulceration, dysentery, an abdominal tumor like a fibroid, or an enlarged and badly retroverted uterus pressing the bowel together; diaphragms so called, being folds of mucous membrane projecting into the bowel, forming shelves or valves, more or less occluding the lumen of the bowel, adhesive bands, the product of inflammation, binding the internal coats of the intestines together. This form will include obstruction to the free passage of fecal matter due to the presence in the bowel of foreign substances, accidentally or intentionally swallowed by the mouth, or introduced into the rectum; the presence of scybala or hardened feces, malformations of the sigmoid, both as to size and length; extreme flexion on itself producing a strictured condition, dilatation of the colon with great increase of its length, also diverticula of the colon. Under this class or division may be properly included diseased conditions of the colon, like colitis, of the region of the sigmoid, like proctitis, and diseased conditions of the rectum, particularly those of a painful nature like hemorrhoids and fissures which contribute so largely to the causation of constipation, and until reached and cured make the cure of the constipation well nigh impossible.

Second variety. In the second class or division from which we

get constipation as a result may be included many diseased conditions of the liver, where the quantity and quality of the bile poured into the intestines is greatly deflected from the normal. In diseased conditions of the pancreas, in diseases affecting the circulation either in the lungs, the heart, or the kidneys; in many brain diseases, inducing inhibition of peristalsis through the nerve centres, and lastly, though possibly more frequent than all other causes combined, disorders of the stomach and duodenal canal, whereby normal digestion is interfered with and an aggravated dyspepsia or indigestion is produced.

In studying the causes of constipation it is not possible to ignore digestion, for it is without doubt due to the derangement of this important process that not only constipation follows but so many other ills have their origin.

Digestion. Time spent therefore in reviewing certain parts of the physiology of digestion will be well-spent. The peculiar arrangement of the muscular fibre of the intestine, with its intricate and delicate arrangement of nerve supply, on irritation, or better on stimulation or excitement due to the presence of food, allows of that peculiar involuntary movement of the intestinal canal, known as its peristaltic movement by aid of and through which the food is pushed along until it is deposited in the sigmoid cavity. This peristaltic action is produced, and furthered, by the processes of stomach digestion, before the food has entered the bowel at all. The gastric juice of the stomach, acid in character after the food has been intimately mixed with it, pours into the duodenum, where it meets the bile and pancreatic juice, both alkaline in reaction. A chemical action takes place, carbolic acid, hydrogen, and other gases are eliminated. These gases dilate the bowel, and together with the chemical reaction, undoubtedly exaggerate the peristaltic action necessary to secure the proper elimination of the waste material unsuitable for absorption. It is only when the food taken is right in character, and the various digestion fluids normal in quantity and quality, the organs themselves healthy and in good tone, that the action of the bowels can be expected to be normal.

As regards mixed diet. Careful experiment has proved beyond doubt that the human family require a mixed diet to keep them in the best of health. Instances are noted of life being preserved for many years where a radical departure from this rule, or law, has been indulged in, and the health of the individual experimented upon has remained fairly good. The fact that a person can subsist on a purely vegetable diet, or an exclusive meat diet, for an indefinite length of time and not die, by no means proves that such is best for him. Yet as far as I am able to judge this is about the only argument those favoring such exclusive diet are able to present. The fact that some persons never allow a day to pass without taking some dose, or doses of medicine, (patent or otherwise) by no means proves that such medicines, are good for them, but rather furnishes an illustration of how much abuse the human system will tolerate. A beneficent Creator in imparting that vital principle into man called life, has seen fit under certain conditions to render the careless snuffing out of the same a somewhat difficult matter, else would some of us drop by the wayside. If any delicate piece of machinery made by man were tinkered and fooled with, taken to pieces and put together again, scrubbed, boiled and adjusted, as is this mortal body of ours, how would it run, and how long would it last? It has been intimated by those familiar with statistics, that the medical profession is becoming overcrowded. Why, bless my soul, from the time of Moses there have been more doctors in the world than all the other professions put together. The trite saying that "every man is his own physician" has more of truth than poetry in it. Stop a man in the street, show him your watch, tell him it is out of order and will not run, and ask his advice as to what you had better do about it, and he will naturally suggest the watchmaker, and incidentally perhaps think you more or less of a fool; but tell the same man that your liver or your lights or some other organ of which he knows far less than he does of a watch, is out of order and he will have a sure cure at his tongue's end in a moment. This is no digression but strikes at the root of some of the most prolific causes of chronic constipation, errors in, and

indifference to, proper diet, and the persistent abuse of cathartic medicines being the two chief causes.

Meat diet. While an exclusive meat diet is indicated in some forms of intestinal indigestion, giving the bowels rest thereby, and while an exclusive cereal and vegetable diet in certain forms of stomach dyspepsia, cutting out albuminoids entirely, is frequently helpful, the average person need both animal and vegetable food. He cannot maintain good health for any length of time, to say nothing of securing regular dejections from the bowels, unless given them.

Coarse flours, etc. While coarse flour like graham, whole wheat, bran and similar cereals are excellent, and have their place in the dietary of all such cases, it is easy to overdo this form of food, and thereby unduly irritate the bowels. It falls to me during the year to see a good many cases where this habit has been acquired and next to the habitual use of cathartics, these are the most difficult to cure; for like most cathartics their action is due to their scratching and irritating effect on the mucous membrane of the bowel.

An inability to assimilate food properly, and a mistaken idea as to the amount and character of such food and drink, is responsible for a large proportion of constipated cases. The existence of the preconceived idea so firmly fixed in the average mind, and already spoken of, that a movement of the bowels must be secured every day or serious results will follow, will account mainly for that great hold on the public taken by the "three P's" and other charming cathartics.

Habit in constipation. While the change in habit of a person leading an active, out-door life, to that of in-doors and sedentary would be quite apt to lead to a constipated habit, the converse is sometimes noticed. An intimate friend and patient of my own is in the habit of making a trip into the woods, early in the summer or fall of each year. At home he leads a fairly quiet life, though not strictly sedentary. His dejections are usually regular while at home. After reaching camp where the conditions would appear

to be ideal and conducive to regularity of the movements, he is so constipated that on occasions when he has neglected to take a laxative with him he has gone a week or ten days without a movement, this in spite of drinking freely of pure water, the best in the world, found in the wilds of Maine, and the great amount of exercise taken. The only way I can account for this in his case is that the unusual amount of exercise taken, mainly in walking in warm weather, causes a great amount of perspiration, and, notwithstanding the large amount of water absorbed, the water is diverted to and passes out of the skin rather than fulfilling its proper and usual duties in the intestines.

Fixed time for movement. Postponement of the time for defecation is a most prolific cause of constipation. This deferred time for attention to the act, with most of us while date back to our school days, partly from a lack of knowledge of the danger of such postponement, due in many instances to lack of instruction on this point from our parents; the hurry necessitated by a late breakfast and the consequent rush to school, that we might avoid being late, furnish excuse sufficient for the beginning of trouble.

Location of closet. Added to this, for those of us brought up thirty or forty years ago in the country, or town, the location of the closet, which was always out of doors, furnished another common factor as a cause. When I hark back to my visits to this bank of deposit in winter, the thermometer 20 degrees below zero, the cruel wind sucking up from the deep vault beneath, the wonder is that any habit other than the most irregular one was ever established. If a definite time for defecation is not fixed on and rigidly adhered to, the desire for a movement passes away. The rectum and sigmoid become tolerant of the faecal mass through a dulling in sensitiveness of the nerves, and constipation becomes the rule.

Age has something to do with the constipation habit also. Very young children, and old people, are prone to it from different causes. In infants it is usually due to the diet, too much sterilization of the milk, the addition of too much lime, salts, and other errors of diet. In the aged, lack of exercise, decreased peristaltic

action and diminution of secretion, all contribute to the delayed action of the bowels.

Sex is also a factor in the production of constipation, women being more prone to the contraction of the habit than men, the disturbance due to the sexual function in woman, at the time of puberty, at the time of the menstrual period, and at the time of pregnancy. False modesty in young women contributes to the formation of the constipated habit, the wearing of corsets or very tight clothing at the waist line.

Reading at stool. More or less has been said and written against the habit of reading at stool, and it is severely condemned by many, the ground being taken that "eloacina" is an exacting procedure, and that the attempt, as one author puts it, "to empty the bowel and fill the head" at the same time, is the height of folly, that the act itself requires all the concentration of mind which the ordinary individual can give to it. To a certain extent this is true, but I must take issue with these authors on some points. There can be no question that any reading, requiring much concentration of thought, would be harmful on the ground above mentioned. The average person, however, does not take a treatise on metaphysics, or a problem in Euclid, to the closet to read, but usually a newspaper, or some equally light reading, requiring but little tax on the grey matter. To offset the possible loss of concentration of mind caused by this distraction from the main object, is the added time given to the act, if something to read is taken along. Few people are willing to give the time which nature demands, and if after the first expulsion takes place, more or less severe straining fails to accomplish more, the thing is given up entirely. If on the contrary, the time is now filled up for a few moments by some reading matter in hand, the peristaltic action of the bowel soon brings added fecal matter from the sigmoid into the rectum, where it can be readily expelled. Smoking with many men is a material aid to defecation, and there is no reason to my mind for its interdiction. In fact most of us would be just as well off if it were possible to limit or confine smoking to this time and place.

Hereditary and congenital constipation. Many writers on this subject have expressed serious doubts as to whether constipation "per se" is hereditary. Personally I have attached little importance or credence to the statements of patients on this point, feeling that some other and nearer cause should be found to account for the condition. When however, a man like Nothnagel tells us that by actual dissection of postmortem, on cases previously affected in this manner, he has been able to demonstrate an actual decrease in the size of the striated muscular fibers of the colon, being reduced from 0.5 and 1.0. m.m. to 0.12 and 0.25 m.m., and he believes such condition to have been congenital and beyond detection or diagnosis in life, we must modify our beliefs to an extent at least. We know, however, that any muscle disused for a long time will atrophy in any part of the body. If the peristaltic muscular action of the bowel has been weakened and deficient for years, and all the work usually done by the muscular coats of the bowel has been done for it by one form of cathartic after another, might we not get an atrophy which would show similar results as obtained by Prof. Nothnagel? That many cases of habitual constipation are due to a neurotic or neurasthenic tendency of the patient, there can be no doubt. Dumin and Bouveret have noted this fact and called attention to it at length. "When the diagnosis is thrown back on this theory, a general atonic condition of the intestinal canal will be observed. Fleiner argues that when this constipated condition is observed in neurotic cases the retardation of the fecal mass by the bowel is due to spastic efforts of the same. Fleiner also was one of the first to call attention to the size and form of the fecal mass in its relation to the pathological condition present. Where the feces are passed in rounded, hardened balls like sheeps' dung, it indicates the atonic condition of the bowel, and when the feces are thin and more or less elongated similar to those passed in true stricture, the spastic condition is indicated. Boas, Westphalian, Rosenheim and Nothnagel confirm these observations.

Symptoms. The general symptoms induced by acute or chronic

constipation are by no means pronounced and are easily confused with the symptoms accompanying indigestion and other ailments. A heavily coated tongue, sometimes with yellow fur, but usually white, flatulence, offensive breath, with bad taste in the mouth, a heavy, tired feeling, occasional nausea and dizziness also lack of appetite, disinclination to work or to make effort of any kind (common to some people who have not even the excuse of constipation); complete stupor has been noticed in isolated cases but could hardly be called a common symptom. As can be readily seen, the symptomatology is so meagre and so readily confused with various disorders, that taken alone it has little or no value.

Diagnosis. At first thought, the diagnosis would seem a self evident proposition, but if in making such diagnosis sufficient care and thought are given to make it differential; or, in other words, if in the making of a diagnosis the cause of the constipation can be located, one of the great difficulties will be overcome and a real step towards the successful treatment of the case be taken.

In discussing the varied causes of constipation mention was made of the mechanical causes, in which were included morbid growths, strictured conditions, retroverted uteri, pregnancy, and stenosis. In making a diagnosis these causes should be entirely excluded, for if any of them are present, we have more than a case of constipation to deal with, and one in which the constipation is but a result or incident.

Results of Constipation. Here again the personal element enters into the ultimate result to a great degree. There are persons, and not a few, who have been constipated for years, and who have been obliged to depend on cathartics and laxatives to effect a movement, and yet have noticed but little if any impairment of the general health. More often, however, we find that the continued necessity for the use of cathartics has required the substitution of one purge after another, with the inevitably increased dose, until the stomach and bowels have reached a point in their rebellion wherein the general health of the patient

is much impaired, and any of the following conditions may prevail as a direct result of the constipation.

Auto-intoxication, due to the presence of large quantities of faecal matter, and consequent absorption of what is commonly considered poisonous material. The possibility of this taking place is even today denied by good authorities, but the consensus of opinion is that it is possible.

Jaundice, as a result of inaction of the liver, intestinal obstruction at some point in the large intestine, due to hardened masses and impacted faecal matter.

Diarrhœa with constipation. This apparent inconsistency is not infrequent, possibly from the irritation produced by the presence of and pressure on the bowel of the accumulated mass and inflammation produced thereby. This liquid condition of a portion of the faecal matter is due, or it may be caused by the excess and irritating character of the chyme, due to imperfect assimilation of food. It finds a passage for itself on one side or other of the hardened mass, and cases are noted where a channel through the centre of the mass has been made. The stools are black, tarry in character, and although at times frequent, they lack the quantity usual in diarrhœa and should not deceive a careful observer.

Diverticulæ may be caused by prolonged constipation, the distention of the large intestine followed by the atony due to such distention, may so affect the muscular fibers of the bowels as to cause an uneven and unnatural peristaltic action, whereby such pressure is brought to bear at uneven and different points, to such a degree as to form these false diverticulæ or pouches. Such a pathological condition is serious in the extreme, and may lead to fatal issue, the true cause of the difficulty being rarely discernible except at the time of postmortem.

Ulceration may result from constipation at any point of the bowel, and constitutes a grave condition.

Dilatation,—one of the most common results of the chronic habit; this dilatation may occur and involves the whole length of the bowel, but is more common in the region of the sigmoid

flexure and rectal pouch, where the distention has at times been enormous. A case is recorded, where the rectal pouch measured seventeen inches, and cases are quite commonly noted where the sigmoid is dilated to two or three times its normal capacity, and lengthened as well.

Enteroliths. These are usually due to a sluggish action in the bowel of the faecal mass, a prolonged stoppage at some point, and an excess of phosphates and carbonate of lime and magnesia and iron, either in the system naturally or taken by the patient, as medicine, or in mineral waters, any combination of these causes may easily favor the petrification of a portion of the mass and cause the stones formation.

Proctitis, resultant from, or as a complication of constipation, is so established a condition as to require no more than mention.

Appendicitis. From the experience of my surgical friends, from my reading on the subject, and from personal experience, I am satisfied that constipation must be reckoned with as a potent factor in the causation of appendicitis, and it is my belief that very many cases are caused by the same. All surgeons are agreed that in 95 per cent. of cases where any concretion is found in the appendix at the time of operation, that concretion is a faecal one. It certainly seems reasonable to believe that a caecum distended and packed with faecal matter may distend the opening into the appendix, and through this opening faecal matter is easily pushed. In a blind pouch such as this, extraneous matter can enter much more easily than it can get out. If the faecal matter in the large bowel can be acted on by the mineral salts in the body and take on a calcareous condition, this can prevail as readily or more so in such a pouch as the appendix. Irritation and inflammation are now set up by this hardened mass, and appendicitis follows. If these premises be true, if constipation is one of the leading causes for appendicitis, then it is taken out of the list of simple diseases and assumes a formidable condition indeed.

Hemorrhoids and other diseases of the rectum. That hemorrhoids, fissure in ano and many other rectal diseases are produced directly by constipation is so well known that the bare statement

is all that is necessary. It can safely be said that a very large proportion of all rectal diseases are due to this cause. A chapter could be easily given to this part of the paper, but it is not necessary.

Functional disturbances of the nervous system, which list could be made a long one, are noticed as a direct result of constipation.

To sum up, we find, therefore, that constipation, although not seriously threatening the immediate extinction of life, is capable of producing too many ills or variations from the normal to be dismissed lightly or to be considered amongst the trivial ailments and susceptible of relief and cure by a simple purge.

Treatment. If it were possible to outline a mode of treatment whereby constipation could be cured without studying the causes leading up to the disease, its etiology, and differential diagnosis, it would be most gratifying and much time would be saved. This has never seemed possible, and we doubt if it is so. In the acute variety, if the usual purge, followed by copious, high enemas fail, the possibility of the varied causes already mentioned, responsible for the variety of the trouble, must be taken into consideration, and resort to surgical interference must not be delayed too long. It is to the consideration of the chronic form of constipation that our time must be given, for the disease has as a rule drifted into this form long before our services are called for.

Diet in chronic variety. The question of diet will take a foremost place in the regime to be laid out. Authors are not agreed on this subject, nor are the ideas and practice of the average physicians by any means settled on this point. Without doubt there are some who will take issue with me in my ideas on the matter. No claim can be made that any diet, however carefully laid out and followed, will of itself cure constipation. There are some facts, however, in the matter of diet which experience has taught us and from which deductions have been drawn which are hard to controvert.

Coarse cereals do not cure. The first of these conclusions points to the fact that a diet largely consisting of coarse or

unbolted flour, oatmeal, rye-meal, and similar cereals, while palliating and giving temporary relief, do not cure, but, like the habitual use of cathartics, rather tend to aggravate the trouble in the end.

Vegetables. The second point gleaned is, that almost all vegetables having a large percentage of water in them, and waste material, not taken up by the absorbents, like summer squash, peas, beans fresh from the garden, lettuce, celery, asparagus, onions, kale, cabbage, and the like, if taken in moderate quantities and persisted in will have a tendency to promote movements of the bowels. Water taken by itself freely, will assist, but taken alone, no matter how large the quantity, will not prove sufficient.

Fruit taken with care. The third point noted, is that fruit if taken ripe and uncooked, while proving a great aid in its action on the bowels, in most cases must be given and advised cautiously, from its tendency to fermentation and the difficulty experienced by many in its digestion and assimilation.

Use of glycerine a mistake. A fourth point noted which we feel sure experience has taught us, is regarding the action of glycerine, used both internally and in form of suppositories, and advised by so many physicians, some of them very prominent in the profession. We believe it to be a mistake, and that its use is likely to do more harm than good. We believe glycerine to be a good deal of an irritant to the mucous membrane, and have known many cases where its persistent use, in the rectum, which has required treatment for some time to relieve. Fried foods of all kinds should be interdicted; potatoes used very sparingly, cooked with their jackets on. Rice is usually not allowed, it being supposed to be constipating. This to my mind is another fallacy, and my experience goes to prove rice a very harmless vegetable, even in cases of pronounced colitis.

Method of preparing rice. That the method of preparing rice has much to do with its digestibility there can be no doubt. If carelessly thrown into water, hot or cold, and boiled and stirred until it is a soggy mass, it is rendered indigestible and unpalat-

able. Our southern friends, including the negroes, know how to prepare properly this dish and I shall be pardoned if I take time to give the method. A first-class grade of whole-grained South Carolina rice must be used. This must be thoroughly but quickly washed in cold water. To a cup of rice, two or even more of boiling water must be used. This is boiled hard for exactly thirteen minutes, the rice shaken into the boiling water, and nearly a teaspoonful of salt, or about this quantity. The water is then drained off carefully, no spoon or fork being allowed to touch the rice. A tablespoonful of cold water is poured over the rice and the kettle is put on the back of the stove where there is little heat, covered and allowed to stand apart half an hour.

The rice is now thoroughly cooked, but each kernel is separate and by carefully taking out with a silver fork, can be kept so. Served in this manner rice is a delicious vegetable and easily assimilated.

Stewed fruit like prunes, plums, etc., are considered good. Tea and coffee should not be used except in moderation. Butter, buttermilk, cottage-cheese, vinegar, oil, syrup, and molasses are allowed. Soda water with tart fruit syrup may be allowed, but artificial seltzer and vichy are not considered good.

Water drinking. In the drinking of water, both in the morning and at other times, cool water (not iced) is more beneficial than hot, tending more to excite natural peristalsis.

Ideal diet. The ideal then to our mind in an obstinate constipation, is one in which the meat shall be subordinate to the vegetables, not pushing the latter to the point of producing intestinal indigestion, but giving the patient all he can take care of comfortably. The addition of raw fruit if it can be borne by the patient, the drinking freely of good soft water, and the abstinence from much sugar.

In a large majority of cases coming for treatment, there is a decided absence of moisture in the bowels as shown by the passage of hardened feces. The line of diet already suggested is intended to supply this deficiency. At first it often fails

absolutely to do this. The patient may eat liberally of the vegetables mentioned, drink freely of water each day, and yet the excretions are as devoid of moisture as before, the stools being hard-baked. It is in such cases that the glycerine has been suggested.

Use of oil by the mouth. We believe that oil, by the mouth, will fulfill the indications better and give the necessary relief. Good olive oil, the best Italian salad oil, or where this is distasteful to the patient, a purified petroleum oil known in the shops as white petrolatum oil, has given me great satisfaction. A table-spoonful taken before retiring each night, and possibly another during the day for a limited time, will act mechanically and give great relief to the patient, thereby helping out your diet and other measures.

Exercise. Exercise comes next in importance in our efforts to relieve constipation. Out-of-door exercise, preferably walking, horseback and bicycle riding, golf, tennis; any light work which takes the patient out of doors and gives a certain amount of stimulus to the muscles is to be recommended.

Walking is without doubt the ideal exercise, but many persons, especially women, complain that they are not able to take sufficient to bring about any good results. Not infrequently this is due to a lack of knowledge of how and when to walk. For women particularly, a good solid thick shoe is a prerequisite to walking in comfort, and it is often owing to the lack of this that they are able to do so little of it. The time of day should be regulated by the season of the year, avoiding either extremes of heat or cold. Neither immediately before nor yet just after a meal should be the time selected. A good brisk gait is always advantageous, and to have a certain definite objective point is more stimulating than a walk simply against time. Nor should a walk down town, ending in an exhausting shopping expedition, be considered an ideal constitutional.

Horseback riding comes next to walking in its tonic effect on the muscular coats of the bowel, and is to be encouraged and recommended highly.

It is very unfortunate that the popularity of bicycle riding ran such a short course, and was so frightfully overdone that the machines have been mostly relegated to the dump heap, for the bicycle certainly furnished excellent recreation, not too strenuous if taken moderately. It was a form of exercise very good for correcting constipation. •

Riding or driving in a comfortable, rubber-tired, up-to-date carriage, is without avail. Were the patient willing to ride in a wagon having no springs, over the cobble stones of the city, or over the rough roads of the country, the results might be different.

There can be no question but that the automobile, with its jouncing and bouncing, has a more beneficial effect if the person driving survives other dangers long enough to give it a fair trial. For home exercise, nothing can be better than the weights and pulleys sold in the sporting houses, and intended to be fastened to the wall. By means of such an apparatus, using little or no weights, every muscle in the body can be exercised, stimulated, and strengthened, and if used regularly and judiciously not alone would this class of cases be benefited, but great good would follow to every one persisting in it.

Massage. Massage, either by the hand of an expert masseur, or as applied by aid of a vibratory machine, may supplement all previous efforts, and a case should never be discharged as hopeless, unless one or both of these means have been tried.

Electricity. Electricity may be employed as an adjunct many times with great benefit. The Faradic current is the one usually recommended, using the ball or roller electrode. While possibly the majority of cases need and are helped by the Faradic current, in my practice I have found a great many who respond more quickly to the galvanic current. A sponge connected with the negative pole is applied over the abdomen, the other pole at the base of the spine about opposite, applied in this manner for two or three minutes. A rectal electrode is now inserted into the rectum, connected with the positive pole, the other in form of flat sponge being slowly passed over the abdomen for about five

minutes. These treatments repeated three times a week have followed by decided benefit.

A galvanic treatment recommended by Dr. May Cushman Rice consists in passing two flat sponges, well wet and soaped, placed three inches apart on the abdomen, connected with the galvanic current, interrupted 100 times a minute, passing over the abdomen in the direction of the colon, using from 5 to 20 m., this maintained about five minutes. The positive pole is now placed stable over the liver, and the negative used labile as before, for three minutes. This treatment should be given daily, until there is some improvement, usually ten or twelve treatments being necessary.

The same writer speaks very highly of the electro-static wave current or surging as it is called, "the patient sitting on the side of the chair on the insulated platform, inserts a rectal electrode with a metallic surface so made that the metal is grasped by the sphincter and is not allowed to pass higher. The jars are on switch, on spark, negative pole grounded, the prime conductors together at first, are gradually separated until there is a spark gap of six or eight inches. The treatment is painless. It produces a powerful passage which affects the entire alimentary canal. This is given for twenty minutes daily, until improvement; then every other day."

Flexion of bowel. In describing the varied forms of constipation attention was called to the fact that in some cases there was decided and persistent dropping, or sagging of the bowel, causing an extreme flexion at or near the sigmoid. Here as in some other cases, mechanical means must be called on to help out any line of treatment used. In these cases, nothing can do better service than two or more rather broad bands of common surgical adhesive plaster, firmly applied over the lower abdomen, thereby raising and straightening the elongation and flexure of the bowel. In my hands these bands of adhesive plaster have fulfilled the indications better than any tried, including even well-fitted elastic abdominal supporters. Where this support gives only temporary relief, an incision can be made through the abdominal wall, the

relaxed bowel can be lifted up and fastened to the peritoneal coat of the abdomen. At first thought, this might seem a severe operation to advise, but when the misery attendant upon a case of apparently incurable constipation is taken into consideration, in the light of modern surgery, we are fully justified in advising and doing it, if all other means have failed and we feel sure such a pathological condition exists.

Impaction of feces. When first called to prescribe for a case of inveterate constipation, a digital examination should always be made of the rectum, that an impaction of faecal matter easily within reach should be absolutely excluded, as a cause. Should such a condition be present, nothing can be done until the mass has been removed. Euenas are usually fruitless. Various instruments have been devised for assisting in the performance of this procedure, but nothing will do the work so harmlessly and so intelligently, as the finger or fingers. Protect the hands by rubber gloves, use the fingers as hooks, and the thing is usually accomplished thoroughly and speedily.

Taking history carefully. In taking the history of your patients look very closely into their daily habits of life. If they fall into the class of strenuous livers, you must be able to correct their manner of living, securing for the woman the proper intervals for absolute rest particularly after meals, as well as attention to other hygienic measures. If the patient is a man the cutting out of stimulants used as bracers, the excessive use of tobacco, and a reasonable let-down from the intense life led by so many of the business men of today.

Drugs. Thus far I have given no indications for the use of drugs. I speak of their use lastly, for I am satisfied in my own mind that they are of least importance in the treatment of the disease. If I were obliged to discard the adjuvants I have already called attention to or remedies, I should throw over the drugs, and I am by no means a disbeliever in their efficacy.

In the application of our remedies, we have a distinct advantage over the old school, and yet, if our entire efforts are directed

to the selection of the indicated remedy, failure to effect relief will most often follow.

If our own path is so beset with difficulties, in mapping out a treatment for constipation, what shall be said of our friends of the old school?

Hardly a day passes, but our mail, or our visiting reminder from the numerous drug houses, brings to our notice, a pill, powder, or a liquid, which at last is supposed to solve the problem. This or that new drug, or usually combination of drugs, is guaranteed to move the bowels surely safely and pleasantly, and if taken persistently will cure the patient of his constipation.

Glancing a moment at the drug armamentarium of our friends of the other school it would seem as though new remedies were hardly needed. Running hastily through that delightful old practice of medicine of Dr. Thomas Watson, which is a classic in medicine, the subject of constipation is not given especial consideration and is only mentioned in connection with other diseases. The usual purgatives such as castor oil, blue pill, epsom salts, are frequently mentioned as useful in treatment. Later than this work we find prescriptions like the following in general use: "R. Pulveris Aloes, Pulv. Rheii, of each half drachm, Saponio, one scruple, Misce et cum aquæ, fiat massa, in pilulæ viginti dividenda-xx pills, two or three to be taken a day." Another, "Massæ Pilularum Hydrargyri, Pulv. Aloes, Pulv. Rheii, each one scruple, divide into twenty pills, three to be taken at bedtime. Alternative, and laxative, useful in deficient hepatic secretions." Another,—"*Colombæ contusæ, Zingiberis contusæ*, of each half an ounce. *Senna* two drachms, *aquæ bullienti*, one pint, sig: macerate several hours, a wine glass three times a day or less frequently if it operates too much." Passing along to Austin Flint's Practice, published in 1868, the difficulties and uncertainties of the treatment are better recognized, more is said regarding other means than drugs to effect a cure. For drugs, *Senna* and *Aloes* have first place. *Rhubarb*, tincture of *Colchicum*, *Belladonna*, *Nux vomica*, are mentioned. *Nux vomica* is spoken of in the latest edition of Potter, recommended in rather small doses,

drops five to ten of the tincture, in glass half full water, before breakfast and dinner. Strychnia, usually combined with other drugs, has a prominent place. Castor oil, mild and efficient; Sulphur, either alone or combined with Senna; the Sulphates, either alone or combined with mineral waters; Podophyllum, one twelfth to one sixteenth of a grain, night and morning. Senna, the base of most compounds; Mercury, the old stand-by, either as Calomel or Grey powder; Hydrastis, Magnesium bicarbonate, Alum, Aloes, Chloral, useful in neurotic cases, Ipecac, where great torbidity exists, Cocculus, with flatus, movements hard and lumpy, Turpentine, in purely atonic cases, Arsenic usually in Fowler's solution, Ammonium chloride in so-called bilious conditions, Belladonna grains, one half of the extract at night. Croton oil, the most active and violent cathartic known. Cascara sagrada, in half-drachm doses of the fluid extract, produces soft evacuations, without griping. Frangula has similar effects; saline natural waters without limit. Phenolphthalein, one grain dose, a new cathartic put up by a leading drug house, is supposed to be reliable and harmless.

You will notice that as I run down the list, the massing together of three or four remedies is discarded in a measure, and more dependence is placed on the single remedy, and often very clear cut indications are given for the use of the same. This may be due to the influence of our school on the history and development of prescribing drugs. We like to think so at least.

If a purge must be used, and the necessity for such frequently occurs, particularly before operations, nothing can be better than castor oil. It is more thorough than any other and causes little or no disturbance after operations. Cascara sagrada, either in the fluid extract, like Parke Davis's Cascara Evacuent, ten drops at dose, repeated at four hour intervals, until results are obtained, or Cascara mixed with a good malt, such as the Maltine Company put up, a tablespoonful at night, is usually sufficient.

Personally, I have never known of the cure of a single case of habitual constipation, following the use of cathartics. The continued and persistent use of any of these so-called cures for

constipation will place the patient after a time in the list of incurables. The physiological reason for the failure to cure by these purgative medicines, is that most of them intended only to stimulate, produce their effect by irritation. No organ or set of organs, can suffer daily irritation without passing through a pathological change, the stomach, liver, and whole intestinal canal being exposed to such changes. Remedies given in the minimum dose, and according to the laws of similars, have far better chance to effect a cure. One most important point is if failure results, your patient is not left in worse condition than when you commenced your treatment.

From the day of *Æsculapius*, and before, it has been the custom to commence the treatment of all acute diseases with a purge. Our school has done much not only to show the fallacy of such methods, but the danger to the patient in following such rule. There are occasions, however, where such purge can be given with the best results and where it is really as necessary as an emetic after a poison. Our school has been criticised by ill advised and ignorant persons, because we have no drug which if given in small doses, according to our law, will move the bowels. We do not have to. The conditions which call for such relief are not diseased ones. If we find it necessary to take heroic measures we are not transgressing any law, but simply effecting a mechanical procedure called for. It is here that common sense comes in or should come in. An over distended bowel or impaction of faecal matter at any point of the bowel or rectum is not a disease of itself, but a result or complication present in hundreds of abnormal conditions, and many times can be met mechanically by a good purgative, to the advantage of the patient and the good sense of the physician treating the case. In the great majority of cases the bowel can be unloaded safely and efficiently by a full high enema of plain water, or soap and water, and the danger of lighting up an inflammation in a bowel already irritated by the commencement of a typhoid fever, or kindred trouble avoided. In cases where an enema fails to relieve, and medicine by the mouth is difficult to give, or contra-indicated, a solution

of epsom salts, thrown into the the bowel given as a high enema, will often act as promptly as if given by the mouth. To effect a cure of the constipated habit, much thought may be required and much time may be consumed.

We have a dozen or more remedies having well pronounced and fairly clear indication for use in this trouble, some of them proven over and over again, by careful observers. There are comparatively few drugs having constipation as the leading result of continued use, in appreciable doses. There are a great many having it as a co-existing result, when the totality of the symptoms are taken. When the patient comes to us complaining of nothing but constipation, no claim of symptoms, to select the exact similar is often a bit difficult.

Nux vomica has held leading place for years as a remedy, advocated by Hughes, Lilienthal, and others, the indications for same being a foul taste in the mouth in the morning, ineffectual urging while at stool, little or no desire for stool, stool hard and dry, the key note for this remedy being in cases already addicted to the habitual use of purgatives. Personally *Bryonia* has given me better results than *Nux*. The indications are similar, there is no desire for stool, and the character of same is hard and lumpy, showing deficient secretion. *Bryonia* has an affinity for mucous surfaces, appearing to increase the circulation in same, and to stimulate the flow of lubricating mucus. It has helped me cure a great many cases, I feel sure. *Opium* is spoken of in the constipation of old people. The stool is hard and dry, as the *Nux* and *Bryonia* stool, but there is a decided torpor of the whole bowel, resembling a paralytic condition. It affords signal relief after lead colic. *Opium* ought to be the most valuable remedy we have in constipation; and yet I believe it is used rather infrequently. *Hydrastis* is another remedy often indicated. The tongue is coated, the mouth tastes bad, the stomach is disturbed, as also the liver, the stools are hard and coated with mucous, hemorrhoids are present. Drop doses of the tincture or tablets, one or three times a day, act very kindly. *Plumbum* is useful as a remedy where at almost every effort at stool a spasm of the

sphincter occurs, preventing, or at least seriously obstructing the passing of the fecal matter, this symptom being really the key note.

Collinsonia is applicable in cases where hemorrhoids exist as a complication and interfere with the free movements by their mechanical obstruction. It has been advised also where severe bleeding occurs, but I feel sure Hamamelis should have the preference in these cases. Calcareo carb is often found an excellent remedy, particularly in children, where the constipation alternates with diarrhoea, the stool is white and clay colored, being deficient in bile. The remedy is one that has given me very positive results, and I think very highly of it.

Lycopodium, not lower than the sixth, has given me help in elderly people given to abdominal plethora, where more gas was manufactured than was either comfortable or necessary for the proper digestion of the food. Many other remedies are found useful in the treatment of this condition, but space will not permit of their mention. An accurate prescriber will get better results than the careless man, and yet, as I have already hinted, the average case of constipation must be studied in its entirety, and if good results are expected the physician must be prepared to take advance of, and bring into use, every adjuvant promising relief to the patient.—*The New England Medical Gazette*, April, 1912.

EDITOR'S NOTES.

Cremation.

The announcement that the remains of Dr. Charles William Stubbs, Bishop of Truro, were to be cremated, and that the urn containing his ashes was afterwards to be placed in a niche in his own cathedral, may have startled some, but must have been welcomed by all friends of sanitary progress. To us this is an example which, we hope, will have a good effect in showing people that, to the enlightened Christian, there is no profanation of the "temple of the Holy Ghost" in this way of disposing of the bodies of the dead. It seems to us singularly beautiful and appropriate that the ashes of a high dignitary of the Church should repose as a visible reminder of his activity in the edifice with which he was so intimately associated. In connection with this subject, we take this opportunity of replying to a correspondent who has asked as to the cost of cremation. We need only repeat what we said on this subject in the *BRITISH MEDICAL JOURNAL* of February 8th 1908, p. 340: "The belief that cremation is a costly process has no foundation in fact. At Golder's Green, for instance, the average cost of cremation, together with a niche in the columbarium and a memorial tablet, is 13 guineas. An estimate of the cost of burial, with a memorial stone, based on the average cost of interment at six London cemeteries, is 18 guineas. Cremation has therefore the advantage of economy as well as greater decency in the disposal of the dead than the insanitary method still generally adopted." The cost of cremation itself, including the use of the chapel and waiting-room and all attendance after the body is placed on the catafalque table by the undertakers, is 5 guineas; this does not include the undertaker's charges. It is important that any one wishing his body to be cremated should make known his wish to the executors and nearest relatives; it is not sufficient merely to insert a direction to that effect in a will, because that document is rarely looked at till after the funeral. Moreover, any such direction, having no effect in law, would not bind unwilling executors. It is advisable, therefore, to appoint executors who can be relied upon to respect the testator's wishes in regard to cremation. It may not be amiss to state that special forms for recording a desire for cremation can be obtained from the Cremation Society of England, 324, Regent Street, London, W., which will also give advice as to arrangements.—The *British Medical Journal*, May 11, 1912.

CLINICAL RECORD.

CLINICAL CASES.

BY CLARA H. WILLIAMS.

CASE No. 1. *Coryza*, Mr. W. wanted something in a hurry. Symptoms; sneezing, eyes watering, nose red, watery and burning. Throat and larynx smarting and burning. These, and as the day previous had been unusually warm and dusty, caused me to give him Ambrosia 30. x 6 doses; powder to be taken every four hours.

Next day, he called and said, "That is dandy cold medicine. The cold is all gone but I want a few more powders. Don't forget what you gave me."

Case No. 2. *La. Grippe*. Mrs. B., after being ill three days and using home remedies, called me in and I found her in bed with red face, temperature 103, aching and tired all over. Throat inflamed, tightness over chest, thirst for small quantities of water and throbbing in the forehead. Very hard, dry, croupy cough, causing burning and hurting all along the larynx, trachia and larger bronchia.

Spongia c. m. in six teaspoonfuls of water. One teaspoonful every three hours. Patient better next day.

CASE No. 3. *Tonsillitis*. Mr. M's sister came for medicine saying that her brother had several little ulcers on his tonsils, which were swollen. He was very feverish, face red, head ached but he did not want it raised up. Light did not hurt his eyes, he only wanted to be still. Neck stiff and muscles sore.

Fer. phos. 200 in six teaspoonfuls of water, one teaspoonful every hour until three have been taken, then three hours apart. This was all the medicine given.

CASE No. 4. *Acute Indigestion*. Mrs. R., age 90. I was called in the afternoon and was given the history of pains in stomach since shortly after midnight the night before. Bowels had moved three times, stools were small and dark. Had vomited sour, bitter mucus. Patient was restless and seemed worried mentally. She had taken a Seidlitz powder, but it did not stay down. Had taken the so-called dipepsin tablets which did no good. She was thirsty for small sips of water. Had eaten a piece of veal the night before for dinner. Arsenicum c. m. in six teaspoonful of water, to be taken in three doses, one hour apart. Two days later, I called and patient met me saying, "Do you know, Doctor, you were scarcely

out of the house until I felt better. I did not need all the medicine. I never had anything work like that."

CASE No. 5. *Cramp*. Mrs. M. K. was troubled with cramp in foot for two years. It would come on unexpectedly and caused her to sit down where she was. She could not dance, something she was very fond of. The cramp seemed to be worse in the fourth toe.

Coccus cacti c. m. was given, and a powder to be taken if she got another cramp. Two weeks later, she went to a dance and danced without having a cramp until ascending the steps at home. Then for several times, she told me, she took a powder before going to dance and could dance all right. Has not had the cramp, nor medicine for over two years. Her physician had advised her to have the bones craped as he thought there might be something the matter there.

CASE No. 6. *Injury*. Mr. N., aged 18, came to see if Homœopathy could save him from the knife as a specialist had advised scraping the bone. History: Eight years previous, while out playing leap frog, he struck his knee against a stone. He used all sorts of local applications and everything his physician could think of but it continued to pain him when he would be on his feet any length of time. He could not work at anything, the pain made him so nervous. Objectively, there was nothing the matter, but by palpation and manipulations, there was quite a sensitive spot found on the inner side at the attachment of the muscles. No temperature, no redness, no swelling at any time. Could not bend it going up stairs, the pain was so severe.

Ruta, c. m., and in four days, he came to the office, saying that he was much better. Could bend knee going up stairs. Medicine continued. Improvement went on and no trouble had returned two years later.

CASE No. 7. *Intercostal Neuralgia*. Mrs. M. L. asked me by 'phone to send her some medicine for pains. She had taken cold while travelling, from one of those sudden drops in the temperature and she got chilled. Had sharp pains all around her abdomen and chest so sore that it hurt her to breathe or to do anything.

Ran bulb. c. m. in six teaspoonful of water, spoonful every two hours did the work.

CASE No. 8. *La Grippe*. Mr. B., headache, pains at times all over body, shifting, sore and aching, sore throat, muscles stiff, felt tired.

Eupatorium perf. c. m. Next day, reported pains all gone, feeling fine except his head, which felt confused, dull, tired mentally. Wanted to lie down and be let alone.

Gels. c. m. Next day reported feeling all right. No more medicine.

CASE No. 9. *Gout*. Mr. S. was awakened from sleep one night with a pain in his second toe. He slept in a tent in the yard. The night was rather warm after a cold spell. The pain was very severe and made him so nervous, he got up and limped into the house. Could not put on shoe next day to go to work. Later in the day, he managed to get his shoe on and came limping into my office. The toe was swollen, red and looked as if it had been sunburned and was so sore and sensitive you could not touch it. I asked him if he had ever had his feet frostbitten and he said he had not. However, to me it looked so much like it, I gave him a dose of Agar. 10 m and when leaving the office about fifteen minutes later, he said "Well, that foot feels a good bit better than it did when I came in here."

That night, he went skating and no more medicine.

CASE No. 10. *Felon*. Miss Josephine, aged nine, got one of her fingers hurt some way but did not know how, until it began to pain and swell. Of course, the usual home remedies were used. Poultices, etc., but still the swelling and pain continued until when she came to me, it had extended to the elbow. She could not sleep for pain. The finger was very sensitive, discharging pus, finger bluish black looking with red, rather purplish red streaks up her arm.

Lachesis 900, internally and same used dissolved in water to apply to finger. No poultice. Improvement began at once and continued. The mother said the other day, "That was the first time, she had ever heard of giving medicine internally for blood poison."—*The Medical Advance*, April, 1912.

CLINICAL OBSERVATIONS.

BY AD. LIPPE, M. D.

Lieut. S., aged twenty-four years, was stationed before Richmond and participated in the battle of Seven Pines; he was there much exposed to wet weather, over-fatigued, and having no proper food and very bad water to drink was attacked with violent diarrhoea, for which he took with some benefit Bryonia, China and Ars. Having only salt meats to eat, and later when stationed at Harrison's Landing the water being more impure, he became worse again and came to Philadelphia to be under my care. On the 16th of August, I found the following symptoms.

Stools discharged in a gush, preceded by some pain in the abdomen; stools consisting of yellow water; motion, eating or drinking caused him at once to go to stool, perfect rest alone gave him relief; after stool burning in the anus; much emaciation and debility. I gave him one dose of Croton tig.²⁰⁰ (Jenichen). He felt better the next day and under the influence of the one dose of Croton tig. and a proper diet, mutton, rice, okra, tomatoes, Claret and water, he continued to improve. A soreness in the abdomen which prevented him from buckling anything around his waist, was removed, ten days later by one dose of Sulphur²⁰⁰. He has resumed his active duties in the field. In this case no other remedy but Croton tig. could be given; the aggravation of the diarrhoea from eating and drinking as well as from motion have not been observed under any other medicine, while the gushing stools consisting of yellow water are also under Croton tig.

Major M., aged 42 years, who had been stationed at Fortress Monroe and later at Norfolk, came under my care on the 10th of July, 1862. He had complained of diarrhoea for which Opium had been administered in large doses. When I saw him he had the following symptoms:

Several attacks during the day; frequent desire to go to stool and when he gave up to this feeling, he passed only discolored and sometimes large lump of mucus; the continual desire to evacuate became a violent tenesmus; the rectum feeling as if violently contracted; this tenesmus also affected the bladder. Great debility and emaciation followed these attacks, depriving him of sleep; had no appetite and not much thirst. July 10th, one dose of Nuxvom.,²⁰⁰ relieved him so far that he passed some feces, the strangury remaining; on July 11th, I gave one dose of Caps.,²⁰⁰. The

strangury ceased, the attacks came on only once in forty-eight hours, always in the afternoon; he at first passed a large quantity of black and very fetid feces, then a quantity of mucus which was followed by frequent violent attacks of fruitless straining, with a sensation as if the rectum was violently constricted. July 16, I ordered Lachesis ²⁰⁰ (Lehrman), six pellets dissolved in half a tumbler of water, one table spoonful to be taken every four hours for one day. The attacks returned every other afternoon during a fortnight, but each time with less violence and finally ceased without further medicine. The major remains well and is again in the field.

In the year 1855, a married lady, the mother of three children, came under my care with the following symptoms. She had periodical attacks beginning with pain in the region of the right kidney, which incommoded her mostly when she moved about or rode in a carriage; the pain was at first a dull indescribable sensation, a heaviness, and finally in the course of ten or more days it became more severe until at length a severe colic commenced; the pain drawing from the right kidney through the ureter into this bladder, when much blood was discharged with the urine; after the discharge had lasted two or three days she was relieved for a period of three to six weeks. The medicines I administered, at intervals and according to the changes of the collateral symptoms had been—Canth., Puls., Cann., Berb., Calc.c., Thuj., Sars., Lyc., Zinc. Zinc had a better and a longer effect than any of the other medicines, the amelioration only lasting a short time; on the whole the disease became gradually worse. While laboring under the attack which now lasted much longer than formerly, she tossed about, screaming and vomiting. After passing soon blood there was a sediment like brick-dust to be seen in the urine. I now gave *Ocimum canum*, according to the few but characteristic symptoms published by Dr. Mure; I began with the sixth potency which caused at once a violent aggravation, later I gave the thirtieth potency, and since this, 1857, the patient has gradually recovered, her health remaining excellent.

After some weeks of varied indisposition and much mental anxiety, [†]Dr. R., aged 35 years, was taken ill on the 22nd., day of Oct., 1861. He felt great general prostration; a great heat all over; a strong desire to sleep, with sleeplessness; pain in all the limbs; a want of appetite and aversion to light. He took for these symptoms one dose of Bell ²⁰⁰.

The following, the 23rd, he was visited by Dr., Hering and myself and the following symptoms were ascertained by our examination: he had not slept the night previous, his mind was too active, but they were always the same ideas that disturbed him; a continued hacking cough, from a tickling in the bronchial tubes, aggravated and excited by motion or talking; he raised at times tough green mucus; the cough causing violent stitches in the head; the head pained all over and felt numb. The tongue was coated white, the edges showing the impression of the teeth; pulse small, empty and frequent, vacillating between 94 and 106; no appetite; very little thirst; utter prostration of strength very low spirited and taciturn; no passage from the bowels for forty-eight hours; urinating but seldom, and the discharge very scanty. There could be no doubt that we had to expect a case of typhoid fever. As the Doctor had taken Belladonna on the previous evening without any results as yet, we concluded to wait until evening before prescribing so that we might be certain that Belladonna was not developing any curative or other symptoms. We met at five p. m., and found all the symptoms we had observed in the morning aggravated, the tongue was whiter, the edges softer, the cough more frequent, the pulse not as full, the prostration greater. The patient received four pellets of *Calcarea carb.*,²⁰⁰ (Lehrman), and another dose of *Calcarea carb.*, was left with the direction to be given in a solution of water, should there be no improvement six hours. The next morning it was found that no further medicine except the one dose administered at five, p. m., had been given as the patient had slept soon after taking it. The cough had become less frequent and the head much relieved; the pulse was softer and fuller; the skin moist; an increased expectoration of green phlegm had much relieved him from the incessant tickling cough; the tongue was less coated and cleaning off from the edges. He continued to improve from day to day; five days after the one dose of *Calcarea carb.*, he was able to sit up, his appetite returned and he has been quite well since.

Calcarea carb., cured this case because it was the only remedy that had similar symptoms among the provings.—The utter sleeplessness from over-activity of the mind, the same ideas always disturbing the patient correspond only with *Calcarea carb.*; while the tickling, hacking cough aggravated by talking and motion correspond with *Calc. carb.*, *Phos.*, *Silicea*, etc. In this case no aggravation appeared after the exhibition of the medicine, but that

invariably beneficial sleep, indicating that the true curative remedy had taken effect, and that an improvement was to be anticipated. The improvement was gradual and steady leaving Dr. R. without the sequel of disease and medicine, and in the possession of full health.

Mrs. L., aged 45 years, had been suffering from diarrhœa for ten days during the hot days of August. The diarrhœa commenced in the following manner, was painless but was relieved only for a short time by Sulph. ²⁰⁰, a few days later a watery discharge became more frequent in the evening and caused a great deal of burning for which Phos., was given with but little relief. On the tenth day the following symptoms were present: watery diarrhœa, grey, oftener during the day, worse after eating, the discharge passing with a gush; before the discharge, cutting pains in the upper part of the abdomen, the desire to stool very sudden, after the stool burning and soreness in the anus and rectum which were worse in the evening and during the forepart of the night; after the stool great weakness, sensation of sinking in the lower part of the abdomen and frequent perspiration. One dose of Nat carb., ²⁰⁰ was given in the morning. About ten minutes after taking the medicine a discharge came on very suddenly with not much straining, consisting of green lumps and white mucus; the next discharge was brown and in a few days the normal condition returned.

Nat-carb., has not all the symptoms related, very strongly pointed out under the provings, but no other remedy has all the symptoms of the case. • The time of the day is not strongly pointed out in the provings, but Nat. carb., has aggravation of diarrhœa after eating. See Hahnemann's Chronic Diseases: symptoms 485 and 486, the violent gushing stool is found, Ibid 494, and read "violent sudden desire to go to stool, followed by a liquid discharge, which passes and gushes with violence from the patient." The burning and soreness in the rectum is Ibid: 413 and 414. The remedy which has next to Natrum carb., the greatest similarity with the symptoms of the disease is Croton tiglium; but Croton tiglium has more diarrhœa after drinking, and also motion always increases the desire to evacuate; the gushing discharge and the burning after stool in the anus and rectum are characteristic of both remedies.—*The Medical Advance*, February, 1912.

Gleanings from Contemporary Literature.

THE RESISTANCE OF THE HUMAN BODY TO DISEASE.
DELIVERED TO THE SHROPSHIRE AND MID-WALES BRANCH OF
THE BRITISH MEDICAL ASSOCIATION.

BY

ARTHUR R. F. EXHAM, M.D., B.Ch..

Market Drayton, President of the Branch.

I feel that the position of President this year is more onerous and responsible than usual. For it is certain that we are on the threshold of great changes, and that the next twelve months will in all probability be a critical period for our profession.

If the National Insurance Bill passes in anything like its present form we shall be fighting for the honour and independence of our profession—some of our members even for their very existence as medical men: and probably many meetings will have to be held and careful consideration will be necessary of the weighty questions that are certain to arise in order to deal with them wisely. For one thing the struggle on the vital question of a wage limit is only postponed. Its scene is, however, shifted from the House of Commons to the local Insurance Committees, upon which we were promised proper representation.

May I therefore take this opportunity of reminding you that we dominate the situation, but upon one condition only—namely, that we are united. By union alone can we strengthen the hands of our Representatives. Their influence will be great in proportion as they feel that they have a united profession behind them; and judging from the tone of the meetings held in this room hitherto, I think there can be no doubt about the unity of the profession in the area covered by this Branch of the Association. I feel that my position is made lighter somewhat by this circumstance, and, busy though the year is almost sure to be, I hope to come here and give what assistance I can to this particular work.

The resistance of our bodies to disease is a subject that we know very little about positively; but in these days, when, as it appears to me, there is a widespread nervousness in regard to disease, and especially infectious disease, it is well that we ourselves should remember that there are such things as defences in our bodies; and perhaps by impressing upon our patients saner views in regard to disease we might enable them to face illness with a more equable and confident spirit—a condition we are always happy to meet with, and upon the advantage of which I am sure I need not dwell.

I cannot pretend to deal in any detail with so vast a subject. It would be absolutely impossible for me, in my position, to bring before you the latest ideas about it : my object is rather to direct attention to certain general aspects of it—no doubt familiar to every one here, but not the less interesting, in my judgment, for being well known. You will pardon me, therefore, if very often “I tell you that which you yourselves do know,” and I trust you will bear in mind that the remarks are those of a member of the humblest order of the profession—a country general practitioner—on a difficult subject, made in the presence of men many of whom are older, abler, and of much wider experience than himself.

At the outset I wish to make it quite clear that I am not considering the question of immunity, although there is no doubt that the important experiments that are daily being undertaken in regard to immunity must go a long way to clearing up the question of the resistances to disease. Immunity may be defined as the power to repel the agents of disease, where the enemy has found the position too well entrenched and has retired—for the time at least. Resistance is the power to deal with the agents of disease when they have obtained a foothold, where the enemy has carried the outer entrenchments and the real struggle has begun. To carry on the illustration, possibly one may suggest that there is a later stage where the enemy has been defeated in a measure, but the damage inflicted has been serious and another process is brought in to play—namely, the power of compensation, instances of which will at once suggest themselves.

Both immunity and resistance are found of course in connexion with agents of disease coming from outside. The diseases which are caused by agents outside our bodies are increasing in number. Besides all the old and well-known infections there are the various invasions of the pneumococcus which are being revealed to us, and those of the *Bacillus coli*; and many, if not most, catarrhal affections, such as tonsillitis and troubles in the upper air passages, probably depend upon micro-organisms, though not always of a specific kind. Besides, many observers are thinking that acute rheumatism may be a bacterial affection and that rheumatoid arthritis certainly is; and this is not unlikely when we remember that we have a bacterial arthritis already in the form of gonorrhoeal rheumatism; also there are various forms of intestinal intoxications, and so on, about which little is known, but which nevertheless, undoubtedly exist, and are probably due to some form of bacterial agency.

I speak of disease agents, not diseases; we are too apt, I think, to regard diseases as entities—things that are definite and, I had almost said, concrete, not, of course, as contrasted with abstract, but rather as things with boundaries, and circumscribed; whereas disease ought to be regarded as a particular condition of the individual, due to certain agents and modified by certain conditions. And as bearing upon this view I would like to direct your attention to the well-established fact that particular bacilli do not always cause the same symptoms. The

pneumococcus does not always cause croupous pneumonia, and we are all familiar with the protean characters of conditions due to the influenza bacillus and the *Bacillus coli*.

This address is concerned mostly with diseases that have their origin in outside agencies, but may I note in passing that even in cancer—though I admit its origin is quite uncertain—resistance is marked even to the point occasional spontaneous disappearance, as vouched for in the recent addresses on the subject given by Professor Gilbert Barling and Sir A. Pearce? Yet our knowledge of living agencies as a cause of disease is very recent. In fact, bacteriology as science has been in existence for not more than thirty years, but during that time its progress has been rapid. Sir Henry Holland, in 1839, suggested that the source of epidemic disease was animalcule life, and J. K. Mitchell, of Philadelphia, in 1847 advanced facts and arguments in favour of the cryptogamic origin of malarial and epidemic fevers. Probably the theory was advanced even considerably earlier; but in the 1877 edition of Roberts's *Medicine*, then one of the favourite textbooks of medicine for students, the only organism that was generally admitted to be a cause of disease was the spirillum of relapsing fever. Still the idea of germ diseases was getting more widely accepted, though it was on the surgical side that the advance came, through the teachings of Lister; and microscopic research, with improved methods of staining and ways of cultivation of micro-organisms, has been constantly adding to our knowledge of this class of diseases.

Now, the germ theory having been accepted, it was hoped by many that we should be able to manage disease better as we know more about the cause. Was the hope realized? Did our treatment of disease alter very much, were we more successful? Surely it was not so; and after a while the reason began to show itself. The problem was not so simple as it appeared. In the first place it was not easy to destroy the germs without injury to their host, and in the case of some bacilli, though they could be easily killed, their spores had wonderful vitality. Then further research showed that ill effects mainly depended upon what we call toxins, substances formed by the bacilli in the blood, or locally, and afterwards absorbed into the blood.

In spite of all these difficulties which we have now begun to see, and which, of course, had always existed, people recovered even in what seemed to be desperate conditions, and the question was and is, Why?

The only answer that can be given is that there is a resistance of some sort a system of defence—in our bodies. And even in past times we were wont to hear such expression as "*Natural tendency to recovery, vis medicatrix Naturae*," or a phrase that the late Austin Flint of New York was very fond of, "*Self-limitation of disease*"; all of which I take to mean that the older physicians and surgeons were conscious that many cases recovered in an inexplicable fashion—that, at any rate, the recovery did not seem to be due to the treatment employed. Some

power was there that was beyond their ken—an unknown agency was fighting for the patient's recovery.

And do not most of us see the same thing to day? I know I do. In a large practice for thirty years among all sorts and conditions of men, women, and children—from those who live in the lap of luxury down to those who often are without the bare necessities of life—nothing has impressed me more than the power of recovery that seems innate in human beings. I see a young patient with pneumonia, living miles from me in the country, in bad surroundings and ill-ventilated rooms, with no nursing, with discomfort of every kind, and irregular feeding, a case whose circumstances preclude the possibility of employing anything but the most simple treatment—everything, so to speak, against it; and yet—and yet—it recovers. And not only an odd case here and there, but scores. The same result happens in measles, scarlet fever, and other affections, where cases recover, without any care being taken of them. Further, what are we to make of the fact that many methods are advocated for treating a particular disease, and all, according to those who employ them, equally efficacious. Look at the results that have been revealed to us by *post-mortem* examinations regarding tubercle—cases of people with healed cavities and other evidence of tuberculous disease who have died of something else, and who, we may be sure, did not all recover from their tuberculous attacks under one and the same method of treatment. The inference usually drawn in such cases is that tubercle is a curable disease, that people recover from a condition at one time considered to nearly if not quite hopeless. But I think the inference can be drawn wider, and we may say that tubercle is not likely to be an isolated instance, but is one of many diseases to which there is in our body great power of resistance. So that the conclusion must be this, I think: That a human being in normally good health is really very resistant to disease, that there is some dormant power in us ready to do battle if called upon. But the How and the Why are still obscure.

Where does the power of resistance reside? How is it to be evoked? These are the questions that for us have the greatest practical importance. There are certain outer defences that we know well. For instance, the healthy unbroken skin is the first external line of defence, and no doubt a perfectly healthy mucous membrane is another. It is at least to many bacilli—certainly the *Bacillus coli*; this seems to be the opinion of the speakers in the Section of Pathology at the recent Birmingham meeting where stress was laid upon such conditions as constipation, diarrhoea, colitis, stercoral ulcer, and intestinal parasites (such as the hook worm of South America), as favouring the passage of the *Bacillus coli* into various parts of the body; and I would suggest that a healthy mucous membrane is probably a great protection against tubercle, whether the bacillus enter through the pulmonary or intestinal surfaces. Many cases of pulmonary tubercle follow upon influenza, measles, catarrhal pneumonia—all, be it noted, catarrhal diseases in which the mucous membrane is

in an abnormal condition for some time. And in past time phthisis was often traced or rather set down to repeated colds. Is it not likely that the local resistance is lowered by the catarrh and the bacillus finds a comparatively easy entry? However, having by some means got through the first line of the outer defences, the invaders find themselves confronted with the local defences, the various resistances of the tissues, and either produce local diseases or pass into the lymph or blood stream and are carried to various parts of the body.

One of the local defences is the process of inflammation (that word of awful import to the average lay mind), the phenomena of which I need not go into. But I may mention in passing that Sir Watson Cheyne has some doubt whether the leucocytosis that accompanies the early stage of inflammation is quite as important as most men believe, holding rather that the essential resisting power of a part to local infection lies in the tissue cells than the adventitious leucocytes which come into it subsequently. Generally speaking, however, a local abscess is the result, and it appears that several micro-organisms have the power of setting up suppuration—the pneumococcus, for instance, as well as the *Bacillus coli*, besides of course the usual pus-producing organisms. As a good example of local resistance there is the abscess found in cases of appendicitis, which localizes the disease, and the failure to produce which results in the many fatal cases of general peritonitis that happen in connection with appendix inflammation.

But what are the ways in which the various acute infective diseases are resisted? What, so to speak, are the inner lines of defence? Here we are on very uncertain ground, nearly everything being a matter of theory. The researches and experiments of Sir Almworth Wright and pupils on the opsonic content of the blood and the opsonic index will no doubt help us, but light is coming very slowly. Sir Watson Cheyne states "that the conditions summed up under the term 'local resisting powers' are much more important than the general conditions seem quite certain." Still the general ones must be of very great importance, because one cannot help remembering that there is a large number of general infective diseases with which we are constantly meeting. It is probable, possibly certain, some of them are local to start with though we only really know them when generalized (diphtheria, for instance), but there does not seem to be any local resistance to most of them; and if there were no general resistance surely the mortality would be greater. Is there anything known as to what goes on in the body while it is fighting these? In some, if not most, there is leucocytosis. Is it defensive? A few facts bearing on this point view may be mentioned. Sir W. Cheyne states that the mortality in infantine erysipelas is at least 50 per cent., and that the mortality steadily falls in older children. Further on he states that, "leaving out the first year of life, there seems to be a slight increase of leucocytosis in children under ten years of age as compared with adults in some of these infective conditions."

Besides, I find in the article on the "Clinical Examination of the Blood, in Allbutt's *System of medicine*, first edition, by S. M. Copeman, that leucocytosis has been found in many acute infectious disorders, more particularly small pox, scarlet fever, diphtheria, pneumonia, acute rheumatism, anthrax, erysipelas, and perhaps in measles. This was years ago, and no doubt additions and corrections have been made since then. In typhoid it was doubtful in the absence of complications. Regarding pneumonia it is stated that it is so well marked as to afford valuable aid in the diagnosis and prognosis of the disease. Certain kinds of the leucocytes are increased, beginning with rise of temperature, and, excepting cases of extreme gravity, this continues and increases up to the crisis, at which stage a well-marked leucocytosis is a favourable sign. On the other hand, if leucocytosis is absent or ill-marked the case will probably end in death."

And it is stated the same kind of information can be obtained in scarlet fever and other diseases. I do not know if these phenomena have been steadily followed up or not. But, curiously enough, it is stated also that leucocytosis is not apparent in tubercle. Whether this statement, which does not accord with the latest observations, is due to the difficulty of deciding what increase in the leucocytes is to be regarded as a leucocytosis I cannot say, but as the normal number of leucocytes is given as varying from a minimum of 6,000 to maximum of 10,000 per c.m.m. of blood, it is a possible explanation. But the very latest account of this subject that I have come across is a report of some observations by Dr. F. A. Craig, of the Phipps Institute, on 100 consecutive cases of phthisis. It is published in the *Journal of Clinical Research* for October last :

STAGE I.—Slight initial lesion in the form of infiltration limited to the apex or a small part of one lobe. No tuberculous complications. Slight or no constitutional symptoms. Slight or no elevation of temperature or acceleration of the pulse at any time during the twenty four hours, especially after rest. Expectoration usually small in amount or absent.

STAGE II.—No marked impairment of function, either local or constitutional. Localized consolidation moderate in extent, with little or no evidence of destruction of tissue or of disseminated deposits. No serious complications.

STAGE III.—Marked impairment of function, local and constitutional. Localized consolidation intense ; or disseminated areas of softening ; or serious complications.

The majority of the cases examined came under the heading of stage III. The following is a summary of the average blood counts :

Average Blood Counts according to Stage of Phthisis.

	Stage I.	Stage II.	Stage III.
Haemoglobin	58 per cent.	68 per cent.	63 per cent.
Colour index	0.65	0.72	0.67
Red corpuscles	4,481,500	4,737,000	4,667,000
Leucocytes	9,440	11,385	15,000
Differential leucocyte count :			
Lymphocytes	20.8 per cent.	12.7 per cent.	9.5 per cent.
Large mononuclears	13.8	12.2	7.6
Transitionals	7.9	6.4	8.6
Polymorphonuclears	54.6	64.8	72.2
Eosinophiles	2.3	3.4	1.8
Basophiles	0.6	0.5	0.3

The two main points upon which it seems that stress can be laid are (1) the earlier the stage the fewer the leucocytes, (2) the earlier the stage the more numerous the lymphocytes and mononuclears; and the fewer the polymorphonuclears; whereas conversely the later the stage the more numerous the polymorphonuclears and the fewer the lymphocytes.

In regard to the changes that the blood undergoes whilst a patient who is under observation either improves, remains stationary, or gets worse the following average figures for a series of cases is full of interest :

Average Blood Counts in Cases of Phthisis in Stage III according to the Subsequent Progress of the Case.

	Much Improved.	Improved.	Stationary.	Worse.
Haemoglobin	56 %	65 %	58 %	62 %
Colour index	0.52	0.70	0.67	0.66
Red Corpuscles	5,408,000	4,614,000	4,326,000	4,728,000
Leucocytes	11,650	13,396	16,280	15,990
Differential leucocyte count :				
Lymphocytes	11.9 %	10.4 %	9.5 %	6.7 %
Large mononuclears	13.5	8.7	7.4	5.9
Transitionals	9.9	8.9	7.9	8.3
Polymorphonuclears	61.3	68.8	73.5	77.5
Eosinophiles	3.0	2.8	1.4	1.3
Basophiles	0.5	0.4	0.3	0.3

It is clear that the number of leucocytes follows quite closely the degree of improvement, being lowest in the "much improved," gradually increasing in number in the "improved," and reaching the highest count

in the "stationary" cases. The slight decline in the number of leucocytes in the "progressive" cases may be compared to the decrease of resistance occasionally seen in severe or overwhelming septic infections with a consequent failure of the organism to produce a leucocytic reaction.

The percentage of the various forms of leucocytes in the different classes are quite characteristic. The percentages of lymphocytes and large mononuclears are highest in the "much improved" cases with a gradual decline in the other groups, being lowest in the "progressive" cases. The percentage of polymorphonuclears bears an inverse relation to the above, being lowest in the "much improved," and highest in the "progressive" cases.

If, therefore, one is seeing a case of phthisis for the first time, one may feel happier about it if the total leucocytes are few, and the small and large mononuclear cells are relatively many. If, on the other hand, one is watching a case in which the leucocytes have been unduly numerous, and the polymorphonuclear cells relatively high, one may be pleased if successive counts at intervals show a fall in the total number of leucocytes per cubic millimetre of blood, and a relative increase in the large and small mononuclear cells.

This seems to point to leucocytosis being at any rate one factor in defence. But of course not the whole process. As another defensive process I would with the greatest diffidence suggest that one about which we are still profoundly ignorant—namely, fever. I believe it to be in some way related to defence, and its failure to appear under circumstances where it might be expected is very often of the gravest significance. I need only perhaps mention its absence in general peritonitis, whether in connection with appendix trouble or not, and point to the fatal cases of diphtheria with subnormal temperatures, and to the fact that in some of the malignant and fatal cases of scarlet fever the temperature never rises much over 100°. One of these came under my notice some years ago. It was the case of a woman of about 30, in whom the highest temperature was 101°, and which ended fatally in three days. She was cook in my own house, and I saw the case right through. It made a deep impression upon me. I have no proof of this idea but I have always acted upon it and I have not interfered with temperature in disease unless they are accompanied by all the nervous phenomena that denote hyperpyrexia. I was often placed in such a position that I could not carry out the usual methods of employing cold, and I did not dare to give powerful antipyretics as I could not watch their effect. But I have had no reason to feel disappointed at my results.

This, however, is a digression for which I trust to be pardoned. I mention it in support of the idea that fever should be looked upon (with reservation) not as the result of poisoning, but rather as a valuable indication of the struggle the organism is making in its fight with disease; certainly not an evil, more probably a friend. But, though we know little of the way Nature resists disease, we know some things

that weaken resistance. Locally the bad effect of previous injury is well known, and I have already indicated my belief in evil influence of catarrh affecting mucous surfaces. Among general influences is exposure to cold. Previous recent illness and bad hygienic conditions are responsible for much weakening of our resistance; also starvation or even bad food, alcoholism, and fatigue either of mind or body. Hence, those whose actual illness has been preceded by a period of anxiety are not altogether satisfactory patients as regards recovery. And further, there is a difficulty which probably some of us do not sufficiently realize—that is, the occurrence of mixed infections; it not only complicates the question of treatment, but is bound, I think, to affect injuriously the resisting power. In what way these various causes act we cannot say. In general terms it may be said that, assuming man in his normal condition of body and mind to be resistant to disease, anything that interferes with absolute health renders him in some degree non-resistant. There are, however, special problems in connexion with resistance into which it would take too long to go deeply, even were I qualified to do so. A few deserve mention.

For instance, in tubercle, why is the resistance of some tissues different at some ages from what it is at others, and why should the resistance of the same tissue vary in the sexes.

Again, there is the general question of the resisting power at various ages. Children seem to be less immune from, but more resistant to, any acute infectious conditions. The exanthemata are far more frequent in children, and yet, as a rule, they are apt to be more severe in adults. Pneumonia, again, is more common in young people; in them the mortality is very low, but rises steadily in proportion to age. On the other hand, typhus is not so common in children, yet it is said to be not so dangerous in them. Enteric, again, is not so frequent in young children as in young adults, and is more frequent in the latter than in older persons; yet the mortality is smaller in young children and rises progressively as age advances. And apart from these questions there are the difficulties of dosage and the virulence of the invading micro-organisms. That these are more virulent at some times than at others seems certain, but we know not under what circumstances they become so. Investigation on this point would be valuable, and might throw some light on the origin of epidemics.

Finally there is, perhaps, the biggest difficulty of all—that is, the resistance of the individual. No two human beings are alike either in health or disease, and individual peculiarities and idiosyncrasies are not lost when men are ill. Probably the resistance of any individual man varies greatly from time to time; it is influenced, as I have indicated above, by many circumstances. His surroundings, mode of life, previous history, must all be taken into account. His hereditary tendencies become important. Heredity, in spite of many efforts to diminish if not

to extinguish its importance, is still generally admitted to influence disease in man, and I incline to think that it operates rather in a negative than a positive way. That is, assuming power of resistance, inheritances tend to produce points of non-resistance; or, to put it in another way, inheritance is rather the weakening in a particular direction of an inherent good quality than the intensifying of an evil one. Perhaps it may be said it is the same thing; to me, however, it is a more comfortable and hopeful doctrine.

The mention of the individual brings me back to the question, How is the resistance natural to every man to be evoked?

I take it, if we accept the doctrine of natural resistance, this is really the object of all our treatment of disease; we endeavour by our management of the case to bring out all the forces, whatever they be, that lie dormant in every one, and assist their operation either by directly strengthening them or by lessening any obstacles to their beneficent action.

But just here it is that we are still on uncertain ground, and until we know these things our treatment must be more or less empirical. Light is coming but slowly. The modern treatment of disease by antitoxins and vaccines is surely based upon the principle of helping Nature by the indirect action of living forces. Yet even here our path is beset with dangers, as evidenced by the difficulties of what is known as anaphylaxis.

And even if we knew Nature's general scheme of resistance to disease, even if we solved all the problems that I have mentioned as well as the numerous others that I have named, there would still remain the difficulty of the individual; for, as I said before, every man is an individual, and even at the best more or less imperfect. Perfection, whether of mind or body, is hardly to be looked for. We have, therefore, to take our patients as we find them, with all their imperfections, their idiosyncrasies of temperament, their weaknesses, whether due to themselves or their inheritances, and do our best to help them to recover from disease by strengthening the powers for good that remain to them. Alas how often no response is made to our efforts! From one cause or another the power of resistance has gone, and we can only look on as the case progresses to a fatal termination. The maxim, "Treat the patient and not his disease," has a solid truth behind it, and if we knew our patients better in their ordinary lives and in their earlier slight departures from health, we should be in a better position to treat them in disease. Unfortunately we do not very often get the opportunity, but when we do, what an incalculable advantage it is! and if people only realized this, much could be done. If the prevention of disease is one of our highest aims, an important part of it must consist in the preservation of the health of the individual by teaching him how to keep his defences in good order.

Lastly I think we must all realize that medicine is still far from being an exact science and that our ignorance is greater than our knowledge. But if we also realized that the body is endowed with large powers of resistance to disease and that the problem of treatment is how to evoke those powers and help their utilization to the best advantage, and if we realized that resistance varies in the individual, then we would recognize that there is a certain unity in medicine, that it is the treatment of disease and not of diseases ; we would recognize that we are not the master but the servants of Nature, and we would sit humbly at her feet patiently investigating the secrets of that most marvellous collection of forces, the living human body, trying to help her, not endeavouring to take the case out of her hands. And a recognition of the unity of medicine would promote a spirit of unity among ourselves, we should hear less of systems of treatment, we should be spared those unedifying controversies in regard to special methods, of which we have had several instances lately, and which I confess are to me painful, for we would recognize that the goal we are all seeking to attain can be reached by several routes, and that no one of us has a monopoly of wisdom.

And, though medicine is somewhat overshadowed by the triumphs of her more brilliant sister, surgery, may we not look forward to a time when, by a sound application of the knowledge revealed to us by a patient investigation of Nature's methods of dealing with disease, we shall regain for medicine a portion of the field which of late years she has been forced to relinquish?—*The British Medical Journal*, January 27, 1912.

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A GLANCE THROUGH THE ALLOPATHIC
MATERIA MEDICA

AND SOME OF THE HOMŒOPATHY DISCOVERED THEREIN.

BY DR. FERGIE WOODS.

During a recent study of a standard text-book of Allopathic *Materia Medica*, I came across so many points that, in the light of our homœopathic knowledge, are most interesting and instructive, that I have noted a few down, thinking they might interest other believers of the true medical faith.

I noticed in this work several remedies, eminently homœopathic that I did not know were recognised at all by the other school. Such remedies as *Arnica*, *Berberis*, *Grindilia*, *Viburnum*, *Prunifolium*. I wonder how they got to know them and the indications for their use. The pity is, though, that even the best-known homœopathic remedies are only rarely and by chance used homœopathically by the allopaths. Hence the frequent disappointment experienced in their trial, and the usual remark that they are not much use in medicine.

Until the "orthodox" school uses medicines in accordance with the law of similars, they will never have the success that we have.

Such disparaging remarks are made of some of the drugs included in this book that one wonders why they are retained in

in the *Materia Medica* at all. One supposes they must have been successful from time to time, when they were (unknown to the user) homœopathic to the case.

One of the first remedies we come across, lying with its sterling qualities all unrecognised, is *Natrum mur.* The allopaths use this valuable remedy for such menial service as an emetic, anthelmintic, or to bathe in, or for saline injections. No mention of its internal use in deep-seated chronic diseases. Common salt, in company with *Lycopodium* and many others, is one of the substances that the allopaths consider inert and of no use as remedies. If they only knew the latent powers that potentising brings out!

Missing out mere acquaintances, the next old friend we see is *Calcareo carb.*, also wasting its sweetness on the desert air. It is recommended as a toothpowder and to drink (in the form of Contrexeville water). And that's all! Whatever should we do without *Calc. carb.* in our treatment of the constitutional ailments of children, to mention only one of this remedy's fields of action.

Calc. carb.'s brother, *Calc. phos.*, is given more prominence, being recommended for babies with rickets; "but it is not certain that it does any good."

Another member of this family, *Calc. sulph.*, is also recognised, given internally in cases of suppuration. "But it probably has no influence on the process." Give it in potency, and you'll see an influence (when the symptoms call for it).

Next we come to *Plumbum met.* which is just used internally as an astringent in diarrhœa.

The symptoms of lead poisoning are described in detail, but of course no connection is dreamed of between these and its use in medicine. But don't we obtain some of our most palpable indications for the use of our remedies from the records of poisoning cases?

Silver comes next. It is used occasionally to check diarrhœa, but "silver salts are not much used internally, and their continuous employment is objectionable on account of the argyria

produced." I've never noticed much argyria with *Argentum nit.* or *met.* in potency !

Zincum met. What should we do without Zincum in certain nerve cases? And, *mirabile dictu*, the allopaths use it in such cases, "in hysteria, epilepsy, whooping-cough, and chorea, in doses of one to three grains thrice a day" (of the crude salt of course). I don't see any mention of fidgety feet, one of the chief symptoms on which we prescribe *Zinc* in any disease. How they'd smile if we told them ! "It (*Zinc*) has been prescribed much for chorea, but often its effect is so slow that it is difficult to prove that the patient would not have improved quite as rapidly without any drug." Ah ! A case in point sticks in my memory, and I shall never forget it. A boy with very severe chorea, who had been on various drugs for months with no marked improvement. One day he was put on *Zinc sulphate*, and *hey presto* ! Movements subsided, the boy put on flesh, and the general improvement in two or three weeks was marvellous. But the *Zinc* was given in potency. The crude drug wouldn't have done it.

Now we come to *Cuprum*. Don't we immediately conjure up visions of Cholera, Cramps, Epilepsy ? But oh ! what a come down for poor old *Cuprum*—they use it as an emetic. And that's the extent of their use of it, except "it was formerly stated that the sulphate would cure chlorosis." Not improbable, as the provings of *Copper* give symptoms resembling that disease.

We don't often use *Bismuth*, but the provings show that it is undoubtedly homœopathic to the very conditions that the other school use it for, *viz.*, gastro-intestinal irritation, though the beneficial effect is explained here as probably being due to its action as protective to the gastro-intestinal mucous membrane, "like any bland heavy powder." That won't explain its success in potency, though.

Aluminium is used as a mouth-wash, astringent, and emetic (I am purposely omitting the external uses of the remedies). Mention is made that "given to animals in large doses it produces paresis, loss of sensation . . ." which is interesting,

as is not *Alumina* one of our chief remedies for locomotor ataxy? But why not give it to human beings, and get subjective symptoms as well?

How many more remedies than the allopaths we have for the treatment of anæmia. They have *Iron* and *Arsenic*, especially *Iron*, and that's about all. We use both of these remedies, of course, but we do not need to give them in material doses, which upset the patient's stomach and bowels.

Moreover, personally I find that these two medicines are comparatively seldom indicated in anæmia, other remedies such as *Pulsatilla*, *Natrum mur.*, *Sulphur*, much more often corresponding to the symptoms.

Various theories have been propounded in the allopathic world as to how the *Iron* acts in curing anæmia, one theory stating that by its chemical action in the intestine it neutralises substances that destroy the natural iron taken in the food, so allowing the latter to be absorbed. This seems a rather round-about theory. Hahnemann's idea strikes me as more reasonable—that the medicine imposes on the patient a temporary drug-disease, similar to the existing disease, and that the vital force being roused extinguishes the new drug-disease and the original disease as well. However, give the indicated remedy, and the theory will take care of itself.

We now come to one of the half-dozen or so specific remedies that the old school possesses—*Mercury*. Specific, of course, for syphilis. It is also *the* remedy that is most homœopathic to syphilis. Just look at the provings, and also at the records of poisoning with the drug. That is why, of course, it is specific to that disease, though we don't expect the allopaths to admit it. But it is not a specific for every case of syphilis, just as *Quinine* is not a specific for every case of malaria. Wouldn't leave any scope for the patient's individuality, would it?

Now here's a very interesting paragraph. "Minute long-continued doses of *Mercury* slightly increase the richness of the blood in red corpuscles, and may add a little to the weight of

the body. Large doses produce anæmia." Now I wonder how they explain that. Looks uncommonly like Homœopathy to me.

Here's another bit of Homœopathy (we're getting on)! Mercury is described as an irritant internally, then later, "Ringer advises grey powder in minute doses for the sudden vomiting immediately after food sometimes met with in children." But then Ringer, of course, was a homœopath in all but name. We are told further on that patients with disease of the kidneys do not bear *Mercury* well. Isn't *Mercurius Corr.* one of our best medicines in Bright's disease? Again, in a description of Mercury poisoning, we are told, "It resembles paralysis agitans." *Mercury* is one of the first remedies we think of in paralysis agitans.

Well, altogether we've learnt quite a lot from *Mercury*.

The next drug we come to is another very important one, *Arsenic*. Again we drop straight on to some unconscious Homœopathy. "*Arsenic* is so liable to cause sickness, diarrhœa, and other symptoms of poisoning, that it is a rule always to begin a course of small doses." Then a few lines later, "Very small doses sometimes check vomiting . . . and in exceptional cases it may succeed in checking diarrhœa when other drugs have failed." And yet in larger doses it causes these very symptoms ! •

I have already mentioned its use in anæmia, and it is also recommended in splenic leucocythæmia and Hodgkin's disease, to some cases of which it is quite homœopathic.

"*Arsenic* has been strongly recommended in asthma and in hay fever," which is only what we should expect from the provings. "It has been given in phthisis but without benefit." I'm sorry. Coming to arsenical poisoning, we are told that "the symptoms frequently bear a close resemblance to those of cholera." How curious now! *Arsenic* happens to be our greatest remedy in cholera.

We come now to *Antimony*, which is recommended in bronchitis and other respiratory diseases, though "because of its powerful depressant action it is less used as a medicine than

formerly." Well, if you *will* give it in the crude form—"Tartar emetic produces a pustular eruption at the point of application," which, of course, explains our use of this remedy in small pox.

The therapeutic uses of *Phosphorus* the next medicine, are dismissed in three-and-a-half lines. "It has been used in osteomalacia, rickets, and in cases of ununited fracture, but for rickets at least it is a very inferior remedy, and it is probably of little use in medicine." *Phosphorus* of little use in medicine? Won't it cure most of our cases of pneumonia, pleurisy, and early phthisis? Won't it cure tumours of the breast and other parts? Won't it—but why enumerate more? We *know* that *Phosphorus* is of the *greatest* use in medicine.

Here, again, the symptoms of poisoning are very instructive—abdominal pain, vomiting, jaundice, liver enlargement, intense thirst, hæmorrhages. Now, if we were told of a patient with these very symptoms, wouldn't *Phosphorus* be the first remedy we should think of for him?

More Homœopathy under *Iodine*. It is described how *Iodine* applied externally to too large an area of skin or given by the mouth may cause gastro-intestinal irritation and vomiting. Then "one or two minims of the tincture in half an ounce of water are often given, quite empirically, every half-hour in cases of vomiting, and sometimes with distinct benefit." Note the "quite empirically." Quite empirically—with the opposite action of the same drug so very, very obvious.

Now here's another of the old school's specifics—*Potassium iodide*. Specific for syphilis, and homœopathic to it. So you will find with *all* the allopathic specifics, *Mercury*, *Pot. iod.*, *Potassium bromide*, *Quinine*, *iron*, they are all specifics by virtue of their homœopathicity.

Potassium iodide, in its provings, has produced symptoms similar to those of the third stage of syphilis, therefore it is capable of curing the disease in that stage.

Under a description of "Iodism," *i.e.*, poisoning from taking too much potassium or other iodide, we find—"The patient

complains of heavy pain over the frontal sinus, running at the nose, sore throat, increased secretion of saliva, and an eruption on the skin . . .” Now we see why *Potassium iodide* is so useful in Homœopathy for certain cases of cold in the head.

We also read that *Potassium iodide* is used in allopathy for chronic rheumatoid arthritis, pleurisy, consolidation of lung, bronchitis, asthma, chronic Bright’s disease. In all these diseases its use is justified by the homœopathic law, but, of course, the allopaths give very much larger doses than is necessary.

Potassium bromide I mentioned among the specifics, and its homœopathicity to certain cases of epilepsy is as undoubted as its disappointing results in most cases. But the allopaths treat the disease instead of the patient, and that’s the whole secret of their failure, in epilepsy and other diseases too. As a matter of fact, *Pot. brom.* is very little used for epilepsy in Homœopathy, other remedies, such as *Sulphur*, *Silica*, *Calcarea*, *Cuprum* being much more often indicated. Remember, the allopaths rarely cure epilepsy, the fits usually returning if the treatment is discontinued. In the cases where the fits are permanently cured by *Pot. brom.*, I believe the remedy is homœopathic to that particular case. In the large majority of cases it acts, in the enormous doses given, simply as a depressant and suppressant.

Ah! here’s the G.O.M. of the homœopathic *Materia Medica*—*Sulphur*. Let’s see what they say of him?

“*Sulphur* is a very good laxative, especially for children. Sulphur has been administered internally for all sorts of skin diseases, generally without any good results, but occasionally chronic eczema associated with much itching appears to be benefited by it, so that the sulphur lozenge is a suitable laxative for those cases.

“*Sulphur* has been also given for bronchitis, for chronic rheumatism and rheumatic myalgia, and it is very doubtful whether in these diseases there is much relief from this treatment.” No, not if you give sulphur lozenges! Oh, please, please, give it in potency, or at least try the 1x.

So apparently, *Sulphur*, like *Phosphorus*, is very little use in

medicine. Well, I only know I use it more than any other remedy, and believe that the great majority of patients need it at some time. It's a real miracle worker.

We come now to the acids, and find *Sulphuric, Nitric, Hydrochloric, Phosphoric, Acetic, Citric, Tartaric*, and *Lactic acids* lumped under one heading, and their therapeutics considered together. This is another instance of the enormously greater use that Homœopathy gets out of medicinal substances. We use *Sulphuric* and *Phosphoric acids*, for instance, for quite different kinds of cases, and *Nitric acid* again for another distinct class of symptoms. By individualizing the remedies according to the peculiar symptoms each produces on the healthy prover, we get the utmost out of the remedies, and have infinitely more resources at our command.

The description of the therapeutic uses of these acids ends with the statement, "We thus see that the remote effects of all acids, except *Citric, Tartaric*, and *Acetic*, are unimportant." I beg to differ. How about the cure of certain syphilitic affections with *Nitric acid*, of neurasthenia with *Phosphoric acid*, of purpura with *Sulphuric acid*? Are these unimportant?

Passing on—we know of course that *Borax* is universally used for thrush, but perhaps we are not all aware that its use was homœopathic. Yet so it is, as the provings of *Borax* show. Other uses mentioned in this book for *Borax* are also homœopathic. "As it is an antiseptic it has been given internally in typhoid fever and phthisis, but with doubtful benefit." In any cases where it has benefited in these diseases, the good effect was due probably not to its antiseptic action, but to its homœopathicity.

"Taken internally it is said to relieve irritability of the bladder." Not only "said to," but *does*. Glance at these symptoms of *Borax* given by Hering—"Violent, urgent desire to urinate, can scarcely hold the urine." "The infant urinates nearly every ten or twelve minutes, and screams before the urine passes." These are symptoms *Borax* has produced and cured. Then "nausea, loss of appetite, vomiting and diarrhœa

may be produced" and cured. "It has no effect on the intelligence." Oh! yes, I think so.

No mention of "aggravation from downward motion," which is one of the great symptoms on which we prescribe *Borax*. But, of course, that is one of those absurd subjective symptoms, which are of no account in allopathic prescribing.

Carbo ligni or *Carbo veg.* "has been given as a powder, as lozenges, and as biscuits, with the object of preventing fermentation of the stomach, but it is not of much use." We are getting used to that phrase, aren't we? It is of the greatest use, but not in the crude form. This use mentioned, with its employment as an antidote in poisoning and as a toothpowder, completes the list of the virtues of *Carbo veg.* What waste! Have they never used it in whooping-cough, in laryngitis, in typhoid and other low forms of fever, in chronic catarrh, in hæmorrhages from various parts, and ulceration?

Kreosote is the next drug I will mention. We are told that it has been given for vomiting and for flatulence, on account, I suppose, of its carminative action. But it will cure these conditions in potency, so there is a deeper reason for its action. "Lately it has been much employed in phthisis, and many authors claim considerable success." Here it is given for its antiseptic action, but here again it will act in potency (when the symptoms agree). Again, "an aching tooth may be relieved if it is plugged with cotton wool soaked in *Kreosote*." But toothache may also be cured with potentised *Kreosote*.

It is interesting to note that many drugs given in allopathy, the actions of which are explained in various ways, are all really (in the cases they cure) homœopathic in their action. For instance, *Kreosote* as carminative and antiseptic, *Quinine* as parasiticide, *Bismuth* as a mechanical gastric sedative. In this connection I might add that I believe *Formalin*, given in the form of "Formamint" lozenges, is really homœopathic to some cases of sore throat, though it is given for its antiseptic effects. Formaldehyde, when inhaled, certainly causes a sore throat in a very few seconds.

I do not know if it is worth while saying much about *Opium*. We use it homœopathically in exactly the opposite conditions to those for which it is used allopathically. We use it when there is stupor, insensitiveness, contracted pupils—in fact, when symptoms similar to opium poisoning are present. I am not going to deny that we never have to use it for its sedative effects in great pain or delirium, but when we do, it is not. Homœopathy that has failed, but we. The allopaths use *Opium* to check diarrhœa. We use it to cure constipation.

Apomorphine, the next drug, needs proving. Its effect in causing vomiting is so very marked that it ought to be a valuable remedy in Homœopathy for the cure of vomiting. I used it for this purpose before I knew any Homœopathy at all except the principle of *similia similibus*. It was on the voyage out to America. The second day out the Atlantic began to exact its toll from me. I had a hypodermic case with me, containing some tabloids of *Apomorphine*, so I dissolved one of these in a tumbler of water, and took a teaspoonful every twenty minutes, and with most gratifying success. After two or three doses I was cured, and had no more *mal de mer* all the rest of the voyage.

We come next to what is from the homœopathic point of view one of the most interesting drugs in the book—*Belladonna*. The symptoms of poisoning by *Belladonna* described here contain nearly all the “Keynotes” on which we prescribe this remedy—flushed face, dry mouth and throat dysphagia, dry, hot skin, high temperature, and very rapid pulse, dilated pupils and delirium. To complete the resemblance to scarlatina, the scarlatiniform rash is mentioned (in those very words). Yet even if they were told that *Belladonna* is the remedy of remedies in scarlatina, and even if they found it as successful as we do, I don’t suppose it would dawn on them *why* it acts so well. Or if they did tumble to it, would they acknowledge it?

Now we are told “of all the numerous drugs that have been given for whooping-cough, it is one of the best.” Quite true. “There’s a reason,” as the Grape-nuts people say. It is perhaps

the most homœopathic drug of any to whooping-cough. Again "*Belladonna* is one of the favourite remedies for the nocturnal incontinence of children . . ." And why? Because the provings produce irritability of the bladder.

Stramonium and *Hyoscyamus* are very similar in many ways to *Belladonna*, though we with our provings showing the peculiar subjective symptoms know which of the trio to use in any given case. "There is no reason," we are told, "why *Stramonium* should not be employed for the same purpose as *Belladonna*, but it is rarely used, except in cases of asthma to relieve the spasm of bronchial tubes." Its use in asthma is quite homœopathic.

Stramonium ought to be more often used. To mention only one of its valuable uses, it has a wonderful effect in some cases of restless insomnia in old people.

"*Hyoscyamus* might be used for the same purpose as *Belladonna*, but is chiefly employed in combination with purgatives to diminish their griping action." To such base uses are good medicines put! Why give a purgative that gripes at all? There's no need.

"*Hyoscine* and *Hyoscyamus* may, if given cautiously, be employed as cerebral depressants, and are used in acute mania, delirium tremens, febrile delirium, and insomnia, sometimes with good results." Yes, we use *Hyoscyamus* sometimes in similar cases, but not in large doses to cause cerebral depression, and not in every case we meet of acute mania or every case of delirium tremens. We differentiate by the individual symptoms. But of course it's ever so much easier to give large doses to every case of that class and get the physiological effect of the drug, even if it is more dangerous to the patient. Only we are conceited enough to believe that our way is more scientific, as well as being safer.

In the description of the next remedy, *Cannabis indica*, the patient's individuality actually gets a look in for a brief fleeting moment. Thus—"The effects of *Cannabis indica*, vary very much in different people. This is partly due to the uncertain

strength of the preparations of the drug, and partly to individual peculiarities. . . ." In time we may even get the old school to give *Stramonium* to one case of D. T. and *Hyoscyamus* to another. *Cannabis indica*, if taken to excess, we are told, leads to loss of appetite and strength, trembling and insanity." Suppose we told them we could cure insanity with it. I guess they'd tell us to take some ourselves! "*Cannabis indica* is reputed occasionally to produce sexual excitement, but this is incorrect," No, pardon me, it is quite correct. The provings bring out this symptom very strongly. "The most constant effect is that time seems prolonged. Minutes appear to be days." That of, course, is one of the leading symptoms on which we prescribe it.

As to its uses, "it has been given with success in migraine and neuralgia, but it very often fails to afford relief." I think we can guess why. "Its use as a hypnotic has been discarded." So after all, in spite of all the weird and wonderful symptoms it produces, it is apparently of very little use in medicine.

Now here's *Gelsemium*. Dear little Jasmine, what should we do without you to help us fight the 'flu? In the description on the effects of *Gels.* we notice our old keynote for its use—drooping of the upper lids. We get a detailed account of its action on various parts of the nervous system, which would lead us to expect great things from it in medicine. But the therapeutic part of its action is disappointing—"Gelsemium was formerly given for many conditions, but as it did no good, and is an uncertain, very powerful poison, it is not often prescribed, but sometimes it is used successfully for neuralgia and migraine." Its prescription for the many conditions mentioned is probably based on the findings of its pathological effects on the nervous system. These effects being depressant, it was given in cases where the nervous system was excited, to act as a sedative. But "it did no good." Verb. sap.

Conium now. We find that pretty useful in medicine, don't we? Certain cases of women's disorders, breast tumours, enlarged glands, etc. But we read here, "*Conium* is rarely given as a medicine, for (a) the amount of conine extracted by any

preparation is very variable, (b) the amount in the same part of different plants is inconstant, (c) the amount of *methyl-conine* present is also very uncertain, (d) *Conine* is very volatile, (e) it is unstable, light and air making it inert." How many of these objections affect us who use the potentised remedy? Not one. Here are *some* of the many disadvantages of using crude drugs.

Next we come to the "noxious weed," *Tobacco*. Here's what we find under its effects on the gastro-intestinal tract. "Nicotine in even minute doses ($\frac{1}{4}$ grain) promptly produces greatly increased salivary flow. . . . burning pain in the mouth, œsophagus and stomach, horrible nausea, quickly succeeded by vomiting and free purging accompanied by *extreme collapse*. Thus there are present a rapid, very feeble pulse, intense muscular weakness, laborious respiration; partial loss of consciousness, occasional convulsions, icy extremities, and profound general collapse." Now out of these symptoms we could construct a pretty fair picture of a bad case of sea-sickness. The horrible nausea, the vomiting, the cold hands and feet, and the great collapse are all present.

To bring the matter further home, can't those of us who have suffered both from our first cigar and from the ocean's heaving swell, testify to the remarkable resemblance between the two sets of symptoms? But in spite of the strong hints thrown out by *Tobacco* (other things are thrown out by it too, but never mind!) in spite of this we read, "*Tobacco* is never used therapeutically." "Never? No, never. Never?; Well—er—hardly ever." As a matter of fact it is used a good deal by "those that go down to the sea in ships." But I'm off the track again. *Tabacum* is the remedy *par excellence* for preventing sea-sickness as well as for curing it—though prevention is easier than cure, in Homœopathy as in all else; I have felt an almost instantaneous effect from a tablet of *Tabacum* 200, when feeling decidedly *mal de merish* on a rather skittish Channel.

We will pass rapidly by *Jaborandi*, only noting one symptom of its action on the body—"there may be a feeling of tenseness

about the salivary glands." Did you know that *Jaborandi* is regarded by some homœopaths as almost a specific for mumps? As far as I remember mumps, there *is* rather a feeling of tenseness about the salivary glands!

We do not use *Digitalis* nearly so much as the allopaths do, and when we do use it our cardinal indication is the exact opposite of theirs. They use it when the heart is beating rapidly. The homœopathic indication is when the pulse is slow, because it produces that symptom in the healthy.

Aconite, we find, "is not used internally so much as formerly, when it was administered in almost every febrile disease [there we see how a homœopathic remedy is misused], with the object of decreasing the force and tension of the pulse." Of course that's quite the wrong way to use it, hence its fall into disrepute. But we gain encouragement from the next paragraph. "Perhaps it is used too little, for many believe that the milder febrile diseases, such as tonsillitis, laryngitis, or a common cold, are distinctly benefited by *Aconite*, especially if they occur in children." The way the use of *Aconite* has crept into the allopathic text-books of medicine the last few years is a sign of the times.

"Formerly it was much used in surgery if it was feared that inflammation might set in after injuries." Formerly? Why not now?

Ipecacuanha reveals some more of the allopathic consistent inconsistency. *Ipecacuanha*, we are told, "is a very common emetic." But exactly six lines from that statement we read, "Occasionally in small doses, such as 4 or 5 minims of the vinum or one quarter grain of the powdered root, it is employed as a stomachic, and these quantities may even stop vomiting when other drugs have failed." I suppose there is *some* explanation for such a glaring paradox.

Ah! We are approaching nearer and nearer to the recognition of the power of the infinitesimal. Listen, "A usual prescription to arrest the vomiting of pregnancy is a minim of *Ipecacuanha* wine in water every half-hour." I should call that an unusual prescription for allopathy. Remember *Ipecacuanha*

wine contains only 1 per cent. of alkaloids, and the usual dose to produce vomiting is 4 to 6 drachms. So the dose used to stop vomiting is $\frac{1}{16}$ of the usual dose to produce vomiting. We're coming along.

Next we read "*Ipecacuanha* is stated to be a specific for dysentery. How it acts is not known." Oh! yes. It's homœopathic. They also use it in bronchitis and so do we. So, although *Ipecacuanha* is a potent weapon of argument for the homœopathic cause.

Lobelia Inflata we don't use very much, but it fills a niche sometimes. We find it here recommended for asthma, which is of course one of its chief uses with us. But "a teaspoonful of the tincture should be given till nausea is experienced, but it should never be pushed beyond that point." No, even a patient will turn!

Now, if you had a patient with intense headache, fulness in the head, giddiness, ringing in the ears, and deafness, what medicine would come first to your mind? Wouldn't it be *China*? And these are symptoms taken from a description of Chinchonism (due to overdosing with *Quinine*). But we don't find *Quinine* recommended for headaches with noises in the ears and giddiness. We read, "It is very largely used on account of its stomachic qualities, chiefly for that variety of indigestion which is the outcome of general ill-health, want of fresh air, and anæmia, and not often when the stomach is the organ primarily at fault." Yes, I think our practice accords with this, as far as it goes. Then we come to its "specific action"—"*Quinine*, and to a less extent, the other *Chinchona* alkaloids, have the remarkable property of arresting the paroxysms of malarial fever." But a little later we read, "It has been stated that *Quinine*, given to those who have malaria, causes black water fever; therefore it is doubtful whether *Quinine* should be used for this disease." "*Quinine* has been given for a host of diseases, especially septicæmia, but there is no evidence that it does good to any, except those mentioned." Those mentioned, are malaria, stomach troubles, and pyrexia, in which class of case, we are

told, it has now been replaced by those which are more certain as *Phenacetin*, *Acetanilide* and *Phenazone*." So there is not much left for poor *Quinine* to do, except in the homœopathic department, and we shall see that it is not out of work.

Passing on more quickly, we learn that *Rhubarb* should "never be given alone, because of the griping it causes." We give it to cure griping.

"*Aloes* must not be given in hæmorrhoids . . ." It is one of our best remedies for piles.

"*Colocynth* should never be given alone, because of the griping it causes," and "it should never be administered if there is any suspicion of intestinal or gastric inflammation . . ." These are just the very cases where we find it cures. Isn't our system an absurdly topsy-turvy thing!

Then *Podophyllum* likewise causes griping, so must be combined with *Hyoscyamus* or some other drug to overcome this, and it is also "so disagreeable to the taste that it is better to dissolve the resin in aromatic spirits of ammonia." We also note that it takes a long time to act, "and will therefore be swept away before it has produced any effect if given with quickly acting purgatives," and "it is better to begin with small doses as people are very unequally affected by it." Now here are four strong objections to its use which do not affect us in the least who give the potentised remedy. But I'm getting tired of saying so.

We will pass rapidly over *Terebinth*, only staying long enough to notice that "it should never be given to the subjects of Bright's disease," and "must always be given internally with great care because of its liability to cause inflammation of the kidneys." Comment is needless.

Now here's a remedy that we look upon as peculiarly our own—*Arnica*. "Externally the tincture is used as an application to bruises, but it is very doubtful how far its good effects are owing to the spirit, and how far to any increase of cutaneous vascularity due to the volatile oil of the *Arnica*." None so blind . . . Anyway, one can easily make sure about that.

by giving it internally instead of externally. *Arnica* "has been credited with obscure effects on the central nervous system." And such credit is due to it. Will it not remove symptoms of shock following an accident, and cure nervous symptoms caused by injury, even years after the accident?

Cimicifuga, we are told, "has been used for chorea, dyspepsia, bronchitis, amenorrhœa, rheumatism, neuralgia, and many other diseases. The evidence that it does much good is slight." Oh! But I suppose *we* shouldn't get much good out of it if we gave 5 to 30 minims of the liquid extract or $\frac{1}{2}$ to 1 drachm of the tincture, and prescribed it indiscriminately for every case of a named disease. But it upsets me that a valuable remedy like *Cimicifuga* should be allowed to run to waste like that.

More waste! *Staphisagria* is only used as a parasiticide to kill pediculi.

Coming to *Hydrastis*, we learn that its chief use is that "it is empirically administered for chronic inflammations of mucous membranes." We use it in these conditions, but *not* empirically. What it is to have a LAW to work by!

Hullo! what is this? *Lycopodium*, the great *Lycopodium*, dismissed in five-and-a-half lines, *Lycopodium*, which takes sixty pages in Hering's "Guiding Symptoms." Let us pass on.

Glancing at *Camphor*, we learn with interest that "some state that it is of use in cholera." We all know well that this is one of the trio of remedies—*Camphor*, *Cuprum*, and *Veratrum*, that Hahnemann, after hearing the chief symptoms of cholera, and before he had ever seen a case, predicted would be of most use in the treatment of that disease. His prediction has been abundantly justified.

Another blind use of a homœopathic remedy is that of *Pareira*, "used empirically in chronic inflammation of the genito-urinary tract, such as pyelitis, cystitis, gonorrhœa and gleet." Where *do* they pick up all these homœopathic remedies?

Cantharis is another. Under description of the symptoms caused by poisoning by *Cantharis* we get a very clear picture of the condition for which we should at once prescribe *Cantharis*. Yet we are warned that *Cantharis* must not be used in renal disease. Still, there are glimmerings of better things. "The drug is rarely given internally, but it has been used with success in small doses in cases of very chronic gleet. Sometimes it relieves chordee." *Sometimes!*

"*Cantharidine* in minute doses (.0001 gram.) has been given for lupus." There may be a hint for us.

The last two remedies I have to mention are *Grindelia Robusta* recommended there for asthma, which is the use we make of it, and *Fiburnum Prunifolium*, which we read "is given a few days before the period in dysmenorrhœa and in menorrhagia; it is given to control uterine hæmorrhage during the menopause, and to relieve pains preceding and following child-birth. Given in the earlier months of pregnancy it is said to overcome the habit of miscarriage."

Both these remedies are eminently homœopathic to the conditions they are here recommended for, and I did not know that the old school made use of them. It would be interesting to know how long they have been using them and where they got the knowledge of their action.

Well, I have not exhausted all the lessons we might learn (and the old school might learn) from this *Materia Medica*. It is full from beginning to end of unconscious Homœopathy. A fitting finish to the argument for Homœopathy is afforded by the following sentence. Speaking of the effects of drugs in general on the heart, the writer says, "the action of a very large dose is generally the reverse of that of a moderate dose." Did the word "Homœopathy" never intrude itself on the writer's mind when he wrote that?

I hope I have shown what great restrictions the old school impose on themselves and how very much they (and their patients) lose by refusing to accept the law of similars and

the potentised remedy. Also, I have tried to show how, notwithstanding this refusal, allopathic medicine is permeated with the homœopathic idea, to such an extent that any allopath who denies the existence or the activity of the homœopathic law stands self-convicted of either gross want of logic or wilful blindness.

It is *not* true to say, as some do, that Homœopathy and Allopathy are approaching so close to each other that there will soon be no appreciable difference in their methods. There will always be the fundamental principle of "*similia similibus*" between the two schools. We cannot go over to them, and we cannot meet half way. The only way is for them to come right over to us. And they'll do it.—*The Homœopathic World*, May 1, 1912.

EDITOR'S NOTES.

Boils.

Henry in the *Clinical Reporter*, tells of a baby three months old who had 146 boils on its body at one time, tests showing streptococci of almost pure culture. All the usual therapeutic measures were tried with most help from vaccine therapy but no cure. Calcium sulfide (Abbot's) was given to saturation. *Well baby! That's all.*—The *North American Journal of Homeopathy*, March, 1912.

The Balfour Professorship of Genetics.

In a letter to the Vice-Chancellor of Cambridge University Lord Esher has made the interesting announcement that an anonymous benefactor has placed in Lord Esher's hands a sum of £20,000, for the purpose of endowing a professorship at Cambridge in connexion with the experimental study of heredity and of development by descent. He states that towards the end of last year a meeting was held in Mr. Balfour's house in Carlton Gardens of a few representative members of the University of Cambridge interested in the subject. At this meeting a short paper written by Mr. Balfour in July, 1910, dealing with the endowment of the study of genetics in the University of Cambridge, was considered. It is stipulated that the new chair shall be called the Balfour Professorship of Genetics and that the first appointment shall be made jointly by the Prime Minister and Mr. Balfour. It is also stipulated that the regulations governing future appointments to the chair and the functions of its incumbent shall be submitted through Lord Esher to the anonymous benefactor before the endowment fund is placed in the hands of the University. The benefactor is also willing to furnish such funds as may be necessary to provide and equip a small station at Cambridge for the use of the professor, should such a course be considered desirable after careful examination of the methods likely to be most satisfactory for the purposes of research in the domain of genetics. In 1908 the teaching of genetics at Cambridge was entrusted to the professor of biology, Mr. William Bateson, now director of the John Innes Horticultural Institution. In 1910 Mr. Bateson was succeeded by Mr. R. C. Punnett, The

stipend of the holder of the chair of biology was largely provided by the munificence of an anonymous donor, and it is understood that this benefaction would have been exhausted within the next year or two. The munificent offer now made will establish the teaching of genetics at Cambridge on a permanent basis.—*The British Medical Journal*, March 16, 1912.

The Honourable Ho Kai, C.M.G.

The bestowal of a knighthood upon Ho Kai, M.B., C.M.Aberd., M.R.C.S. Eng., Barrister-at-Law, will be received both by the Europeans and Chinese in Hong Kong with great satisfaction and pleasure. Ho Kai has for the past thirty years played an important part in the public life of the Colony, and in many ways benefited the community. On his arrival in England Ho Kai spent some time at Palmer House School, Margate, before he commenced the study of medicine at St. Thomas's Hospital Medical School, and afterwards he proceeded to the University of Aberdeen for the completion of his studies. During the period of his medical studies he also "ate his dinners" at Lincoln's Inn, and in the short period of five years obtained not only his medical degree and diploma, but also succeeded in obtaining admission as a barrister to practise in the English Courts. He returned to Hong Kong shortly afterwards, and took an active part in almost all the important developments of the Colony. In the field of medicine he succeeded in accomplishing a great and lasting work. Ho Kai married an English lady, Miss Alice Walkden, but to the great grief of a wide circle of friends, she died a few years after her arrival in Hong Kong. In memory of his wife, Ho Kai founded and endowed the Alice Memorial Hospital in Hong Kong, and handed the managements of the affairs of the hospital over to the London Missionary Society, of which his father, the Rev. Ho Tsun Shin, was an active member. The opening of the Alice Memorial Hospital, with a European staff of surgeons and physicians, gave the Chinese an opportunity of being treated by modern methods of surgery and medicine, a benefit, the large number which flocked to the hospital as soon as it was opened seemed to appreciate. The early members of the staff were Dr. (now Sir) Patrick Manson, Dr. William Hartigan, Dr. Jordan, and later, in 1887, Mr. James Cantlie and Dr. T. C. Thomson. A further benefit, however, to the Chinese was inaugurated in 1887, when the "College of Medicine, Hong Kong," was opened. A complete course of medical study, extending over five years, attracted Chinese

students, and in 1902 the first diploma was granted. The famous President of the Chinese Provisional Government, Sun Yat Sen, was the first student on whom the diploma was conferred, and the college has every reason to be proud of having had within its walls the most humane of patriots who ever served any country. The success of the College of Medicine due to the efforts of the several medical and scientific men who taught for years without pay or reward, stimulated the residents and Government of Hong Kong to widen the sphere of teaching to Chinese and others, and to found the University of Hong Kong in which the college of Medicine is now incorporated. Sir Ho Kai on his arrival in Hong Kong from England practised medicine, but in 1882, when called to the Bar, he gave up medical practice, and devoted himself to legal work. He proved a valuable member of the Sanitary Board, and for 20 years has been a prominent member of the Legislative Council. Amongst his manifold engagements, Sir Ho Kai found time to lecture on Forensic Medicine in the College of Medicine—a chair he was eminently fitted to fill by his medical and legal training. In 1902 Ho Kai was created a C.M.G., and his knighthood is a well-timed honour bestowed upon one who has given his time and great talents to the public good. We heartily join in congratulations to Ho Kai upon his knighthood.—*The British Medical Journal*, March 16, 1912

Bacterium-free Nutrition.

Cohendy (*Ann. de l'Inst. Pasteur*, February, 1912), working in the laboratory of Professor Metchnikoff, has performed experiments which show that the ordinary processes of nutrition may be carried on without the presence of bacteria in the alimentary tract. He took hen's eggs, and, after disinfecting the exterior, hatched them under aseptic conditions. The chickens were received in a sterile chamber which opened out of the hatching chamber, and were fed throughout the experiment with sterilized food. The complete exclusion of bacterial contamination was confirmed by careful bacteriological tests at the end of each experiment. Control experiments were made with chickens reared under similar conditions, but without the exclusion of bacteria. Cohendy found that the "sterile" chickens could be kept alive for several weeks, that their development was in every respect normal, and that their growth was equal to that of the controls. The only difference was that the chickens living aseptically had larger appetites and passed more excreta;

from this the author infers that the ordinary intestinal bacteria are certainly an aid to digestion, though not indispensable.—*The British Medical Journal*, April 20, 1912.

Universal Peace.

Dr. J. A. Riquers, of Paris, Chevalier of the Legion of Honor, and Editor-in-chief of the *Annals of Physiotherapy*, sends us a circular addressed to the members of the International Medical Association against War. Some of the ideas expressed are more progressive and elaborate than the usual pleas for peace as an ethical and economic desideratum. Among these are: the inviolability of the principle of supply and demand; that neither force of numbers nor that of wealth, should overcome the work of the time regulated by free meeting and exchange of thought; that idleness is a crime against society; that the state should study to utilize wasted energy; that dirigibles and aeroplanes should not be used in war; that writings, shows and moving pictures should be used for popular education and uplift; that certain sports which endanger health and life should be regulated.—*Buffalo Medical Journal*, May, 1912.

Dr. Knoll's Treatment by Gonococcus Vaccine.

Case No. 1. Woman age 27. Before coming under my observation had both tubes removed, but when she first consulted me there was a greenish yellow discharge from the uterus; microscopic examination showed gonococci, she was weak, anemic, and complained of pains all over the body. There was every evidence of a general systemic gonorrheal infection. I administered 40,000,000 Gonococcus Vaccine (P. D. & Co.) which produced a severe reaction with malaise and general increase of unfavorable symptoms so that she was confined to bed for four days. Seven days after the date of first injection, I gave 20,000,000 and this was also followed by a severe reaction, which kept her in bed three days. Seven days later I gave 10,000,000 with no reaction. No more vaccine was given, but the discharge and other symptoms all disappeared, and she has remained well to date.

Case No. 2. Man, age 31. History of gonorrhea five years ago, two years ago had an attack of gonorrheal Rheumatism in hip, knees and wrist, which laid him up for three months. Before he

had entirely recovered from the first attack there was recurrence of gonorrheal rheumatism in both knees and right hip; the greenish yellow urethral discharge showed gonococci. I gave 20,000,000 Gonococcus Vaccine (P. D. & Co.), no reaction. Five days later, gave 40,000,000; still no reaction. The discharge ceased, pain left right side in both hip and knee, and swelling disappeared. Joint on left side softened, and the pain lessened. Five days later, gave 100,000,000 Gonococcus Vaccine, still no reaction and all symptoms disappeared. Seven days later gave 200,000,000 Gonococcus Vaccine; patient had severe reaction, pain and soreness in all previously affected joints, but no discharge. Microscopic examination of urine showed no gonococci. Two weeks later gave 100,000,000 Gonococcus Vaccine, without any reaction. Patient was discharged cured. Have kept him under observation since, but he has shown no return of symptoms.

Case No. 3. Gonorrheal Orchitis, 48 hours standing. Gave one dose of 40,000,000 Gonococcus Vaccine (P. D. & Co.) and all symptoms disappeared in three days.

I have cured several cases of "morning drop" by administering three doses of 50,000,000 Gonococcus Vaccine each with a seven day interval between doses; it has never been necessary to give more.—*Buffalo Medical Journal*, May, 1912.

Remedies in Obstetrics.

Caulophyllum is an excellent remedy in exhausted conditions, when the pain runs across the lower part of the abdomen and extends into the groin. (*Cimicifuga* is an excellent remedy when the pains are higher up in the abdomen.) *Caulophyllum* is used where there is a lack of tonicity of the uterus. During labor the pains are deficient and the patient is exhausted and fretful, the os uteri is rigid and the pains are of a spasmodic nature, flying in all directions and without progress.

Chamomilla: In this remedy the pains are spasmodic and press upward, the patient is restless and intolerant of pain.

Pulsatilla is also a valuable remedy, but every homœopathic physician is so well acquainted with the indications for this remedy that I need not mention the symptoms for its use here.

Gelsemium is a very important remedy in these cases and one that is used very frequently. When this remedy is indicated we

have a rigid os uteri, false labor pains, which pass up the back, extending to the hips, the uterus feels as if it was squeezed. There are various other symptoms which are noticed when this remedy is indicated, with which every physician is acquainted.

Belladonna is also a remedy which is often called for in these cases. The patient is very sensitive, pains forcing downward as if all the viscera would protrude from the genitals, very sensitive to any jar or noise and dryness of the vagina with pain in the sacrum and a dragging down feeling around the loins.

Cimicifuga is also a remedy which is much called for. In this we have the pains passing from hip to hip down the anterior surface of the thighs.—The *Journal of the American Institute of Homœopathy*, May, 1912.

How to Increase Weight.

Herr in the *Medical Summary* finds that many cases of chronic dyspeptics with dilated stomachs are from 15 to 50 pounds under weight. He has searched for a food that a sluggish liver would tolerate and that would at the same time serve to increase weight. Fat, because of its high caloric value, will be found to possess the most staying qualities. But free fats such as butter and olive oil, which possess high caloric value, are not suitable as they coat the starches and albumens of the foods with a varnish coat that is impenetrable to the gastric juice. Emulsified fats on the other hand, mix with the saliva and gastric juice and so interfere with digestion. Cream serves as an excellent culture media for the abundant bacteria found in the stomachs of these cases and thus increases the bilious condition of these patients. The fat of nuts in an emulsified state would prove of value were it not so difficult of digestion. Pignolias or pine nuts have been found to answer most requirements and patients have easily increased their weight when they have been used. Dr. Harvey E. Wiley, government chemist, gives an analysis of the edible portion of the *pinus edulis*: Water, 3.4 per cent.; protein, 14.6 per cent.; fat, 61.9 per cent.; starch and sugar, 17 per cent.; ash, 2.8 per cent.; calories per pound 3364. Observe that the ash is 2.8 per cent. and consists of salts which are assimilable. The nuts are free from woody cellulose, so are practically all nourishments and easily digested. They have 96.6 per cent. nourishment, or three and one-half times the amount contained in lean beef. Their calorific value is nearly as high as butter, which is the highest of any food value, so it is

easily seen why patients ought to gain weight from the use of this nut. It has been noted in several instances that the nuts are better tolerated if taken with acids, such as fruits. Cashew nuts are an easily digestible sweet nut containing no fat nor albumen but an abundance of sugar. Patients can often digest these when on account of a kidney affection a low protein diet is necessary. They are also, seemingly, a good weight increaser. Ripe olives are similar to the cashew nut in having laxative tendencies. This is an advantage rather than a hindrance. It is quite important that the liver and bowels be kept active, and for this reason the fruit breakfast is ideal in these cases. Fruits when taken alone have a cleansing effect upon the liver, bowel and kidney and especially prove valuable in preparing the liver to digest the extra quantity of fat contained in the pine nuts. Raw, green vegetables are very rich in natural salts which are necessary for making the alkali of the acid contents of the tissue cell. Vegetable juices increase the activity of the liver cell and their bulk is beneficial to the lower bowel. These raw leaf and stem vegetables should be eaten at least with one daily meal. In an attempt to increase the weight it is a mistake to crowd the patient with food. The rule should be not what the patient is able to eat, but what the system is able to appropriate. It is necessary in order to make any permanent gain in weight that the liver and bowels be kept properly regulated, and if the foregoing rules are followed they will be kept in prime condition and the object realized.—The *North American Journal of Homœopathy*, March, 1912.

The Production of *Nux Vomica* in Ceylon.

The tree producing *strychnos nux vomica* grows in abundance in the jungle districts between Kurunegalla and Jaffna, of northern Ceylon. The tree is not cultivated, and the seed is gathered by natives on their own account and sold to Moorish traders who in turn sell to the Colombo exporters. The production is not controlled. The districts in which the *nux vomica* seed is found are full of malaria, and for this reason the natives refrain from entering the jungle to collect the seed. It is stated that monkeys are fond of the fruit, which is to them harmless, but are careful to drop the seed, and this can be picked up with ease from the ground. However, little seed comes to the markets.—The *Homœopathic World*, June 1, 1912.

"Homœopathic Recorder" and Correct Diagnosis.

We are at a loss to understand why the *Journal* has misunderstood us. While advocating the value of correct diagnosis we never undervalued the homœopathic symptomatology. It was not our contention that a man who knows the symptomatology will not be able to effect cure but that a regularly trained homœopathic physician will do much better than a lay man who has no knowledge of other branches of medical science besides his *Materia Medica*. If still the *Journal* holds its opinion that a regularly trained man and a lay man are at *par* in matters of treatment, then our serious advice would be that America, the abode of Homœopathy proper should save money by abolishing all the well regulated Homœopathic Colleges and enforce pupils of Homœopathy to read the *Materia Medica* only.

By effecting a cure a man does not prove that he is superior to a regularly trained man. There is vastness of difference between the two, however he may be patted on the back by the popularity-hunters. In almost every country there is a class of old women who many a time cure cases which have been abandoned by renowned physicians, but no one would even think of her as better diagnostician than regular doctors; for next time a similar case may come up and the woman's effort to cure it would be almost in vain. But a trained man will at once see that the case though a similar one is not identically the same which had been cured by the woman on a previous occasion. Hence the necessity of correct diagnosis and it is not, however lightly it may be said, necessary only in signing a death certificate! If homœopathic symptomatology could displace all other branches of study such as Anatomy, Physiology, Pathology, &c., then by this time all these branches of knowledge would have been of no use and studied only as curiosities of the past when the knowledge in medicine was rudimentary. To all such ideas we cannot endorse and we will hold to the last that however superior the homœopathic symptomatology may be, a man in order to be a good physician must know all other allied branches of medicine. He must be a thoroughly well-read man and not a blatant symptomatologist only. Is it not imperative also that the study of symptomatology greatly demands previous knowledge of anatomy and physiology? The locality of the symptoms would be otherwise vague and the advancement of knowledge would be at a standstill. If the value of precise knowledge is so very little then the civilized world should cease to spend money upon education.

Dr. D. E. S. Coleman Ph. B., M.D., of New York City gives the following verifications of the Iodide.

ARSENICUM IODIDE.

Allen writes in the "Hand Book": "It seems probable that in the iodide of arsenic we have found a remedy most closely allied to manifestations of tuberculosis; it is indicated by a profound prostration, rapid, irritable pulse, recurring fever and sweats, emaciation, tendency to diarrhoea, etc." The cough is hoarse and hacking, with greenish-yellow, purulent expectoration. I find that most cases requiring arsenicum iodide are < cold and > heat, similar to arsenicum album.

Dr. Pierce says in his "Plain Talks on Materia Medica": "In arsenicum iodide we have a combination of two drugs and, as in other chemical combinations, when taken into the system they break up and each element seems to work better or at least quicker and more vigorously than if either were taken alone. The arsenical characteristics preponderate over those of iodine in this preparation."

Hering states in "Guiding Symptoms": "In 1872 H. Nankimevell, residing at the seashore where patients came to be improved by the air, gave the report of cures of phthisical cases. In most cases cod-liver oil was given daily." Both sea air and cod-liver oil contain iodine, and it is a fact that many patients are benefited by them. The presence of ozone, the absence of bacteria, etc., also play an important part.

"I have had many opportunities in my service at the Metropolitan Hospital and private practice to verify the above characteristics in tubercular patients presenting these symptoms more or less completely. Most cases when the symptoms corresponded were improved. Of course no advanced case can be helped materially, but I have seen some results even in these when the vital force was capable of reacting.

Heart cases characterized by weakness, dyspnoea, quick, weak pulse, < cold and > heat, find a remedy in arsenicum iodide. Indeed any disease presenting an aggravated arsenicum picture calls for the administration of this combination.

In hay fever and acute coryza it proves a most valuable drug. The discharge is thin, watery and excooriating. Sneezing may be a marked symptom and does not relieve the irritation. I have had a number of cases of hay fever stopped, relieved and prevented by its use. As a prophylactic I give it four times daily several weeks before the expected attack.

The safest potency is the one used in verified cases. Hering says: "Introduced by friends of the lower it has been given mostly in the third decimal and always repeated."

I use the 2x, 3x or 6x trituration according to the susceptibility of the patient.

CALCAREA IODIDE.

The symptoms of calcarea iodide resemble those of its components. The chief action is on the glandular system. In a case of ex-ophthalmic goitre the greatly enlarged thyroid gland was rapidly reduced in size until it could not be detected, the cardiac and other symptoms improving proportionately under the action of calcarea iodide 2x, four times daily, followed by kali iodide 3x. The patient was fair, flat, and flabby, corresponding to the calcarea component, although this combination like iodine usually works better in thin subjects. The symptoms upon which I prescribed kali iodide were weakness, pain in frontal sinuses and back, enlarged thyroid gland, palpitation and rapid pulse. All of the symptoms are found in the pathogenesis.

Later, when there seemed to be a slight recurrence of the glandular enlargement, I returned to calcarea iodide, reducing the gland to its normal size, as it has remained for many months. I prescribed on clinical symptoms only, the pathogenesis being very incomplete.

Both calcarea iodide and kali iodide have been successfully verified in my cases of simple goitre.

It is a significant fact that the advertised "goitre cures" contain iodine or one of its combinations to be taken internally, injected hypodermically or applied locally.

I have given calcarea iodide in cases of blepharitis with success.

KALI IODIDE.

In addition to the verification in cases of goitre, kali iodide has been of great service to me in the following conditions: Thin, watery coryza affecting the frontal sinuses, enlarged lymphatic nodes, various forms of interstitial infiltration rheumatism < night, certain syphilitic lesions, asthma and arteriosclerosis with increased blood pressure.

Two of the latter cases now under treatment are improving under this drug. One of them, a lady sixty-eight years of age, with retinal hæmorrhage and aortic stenosis, showed marked progress from kali iodide 3x, four times daily.

Symptoms: Great general weakness, dyspnoea, weak heart, sub-acute, rheumatic pains and dim vision. Blood pressure, 195. Her improvement was steady and rapid, her blood pressure a little over two months later was 178. There are no symptoms at present other than those of the affected eye.

A second case, a gentleman, aged sixty-four years, has been so improved that an out-of-town physician of the "old school," by whom he was treated last summer, recently congratulated him upon his great progress. This patient suffered from attacks of convulsive twitching, dyspnoea and vertigo, all of which have grown markedly less.

Asthma.—Mr. S. suffered intensely with attacks always at night. Arsenicum and other remedies failed to help. Kali iodide 1st, eight drops in half a glass of water, teaspoonful q. 1. h., offered prompt relief. Later he took on his own account about one grain of the crude drug several times daily. He has had no return for over two years.

BARYTA IODIDE.

I have prescribed this remedy in the 2x trituration for chronic enlargement of the tonsils.

MERCURIUS PROTO-IODIDE.

Tongue coated dirty yellow at base: tonsillitis right side. Stomach and liver troubles with characteristic tongue. Various secondary lesions of syphilis.

I usually give a low trituration in syphilis, but one patient with intense throat symptoms showed marked relief from one dose of the 1,000th Boericke and Tafel. This was a hospital case and passed from my care at the end of my service.

To be sure, syphilis requires several years of treatment and considerable medication to cure. In other conditions both the lower triturations and the 30th have been successful.

MERCURIUS BIN-IODIDE.

Tonsillitis left side. Yellow coating at base of tongue. The syphilitic lesions resemble iodine more than the proto-iodide.

I am firmly convinced of the homœopathicity of some form of mercury to the secondary manifestations of syphilis. It is not a specific in the accepted sense, for in the primary or tertiary stage it is rarely indicated. Allen says that mercury affects the long bones, thus differing from syphilis. This may be true in the

tertiary stage, but in the secondary, where it is homœopathic and curative, we find pain in the long bones < at night. The throat and skin symptoms are strongly similar. I have had better results in cases of secondary syphilitic lesions with mercury sol. from the 1x to the 3x than with either of its iodine combinations.

IODOFORM.

My belief, based on my own experience, is that enlarged lymphatic nodes, whether tubercular or not, can in a large percentage of cases be removed with the appropriate remedy. Removal by dissection does not cure the condition upon which they depend or it is possible to remove all the diseased tissue in every case. The remedy, on the other hand, reaches the cause. We should in this condition, as in all others, prescribe for the patient as a whole and not for local manifestations alone. Sometimes, however, all constitutional symptoms seem to be absent; the patient appears to be in perfect health, and the only evidence of disease presents itself locally. Two cases of this kind were cured by iodoform 3x.

CASE 1.—Girl, nine years old, light hair, blue eyes, yielding disposition. Node on the left side of neck greatly enlarged. Pulsatilla, silica and other remedies prescribed for a long time without the slightest result. Iodoform 3x, trituration, one tablet four times daily. In a couple of days the node became inflamed, grew rapidly soft, broke, discharged its contents and was completely healed in about two weeks. This patient is a strong, healthy young woman today, ten years after.

CASE 2.—On March 25th a young lady eighteen years old was brought to me for examination. She had been under treatment for enlarged nodes with X-ray and vibration by a local physician of her school town. He reduced all nodes but one, which defied his best endeavors. She was referred to a surgeon who advised thorough dissection without delay. I disagreed with him and also with two other physicians, the latter both homœopaths of skill. A third homœopath agreed with me. The enlargement was about two inches in diameter. There was an entire absence of constitutional symptoms. Again I prescribed iodoform 3x in repeated doses. The node began to soften and push toward the surface. In about four weeks I received a telephone message saying it was so soft that the local physician wished to let out the pus. I agreed, a half ounce was drawn off and a drain inserted. In two weeks she was well.

I did not discontinue the vibration while she was receiving the

iodoform, applying it once a week when she came to town to see me. Her local physician also vibrated once a week.

I must give most of the credit to the iodoform, because she had received vibration for a long time before.

Closing, I will say that most, not all, of the verifications of the iodides were made with the lower potencies. That is the reason for my choice. I believe it a great mistake to be hide-bound to any potency, high, medium or low. Homœopathy can only give her best when we use the entire scale.—*The Journal of the American Institute of Homœopathy*, June, 1912.

The Chemistry of Rare Rain.

After a drought continuing for five weeks rain fell on Saturday last generally throughout the country, and the opportunity was thus afforded of examining samples of rain with the view of ascertaining whether the long arid interval had affected its composition in any way. Clean samples of the water caught on the roof of the Lancet Offices about an hour after the shower had begun were submitted to partial analysis with interesting results. A feature of the analysis was an unusual amount of ammonia in the water. This, of course, had been washed out of the air. The quantity found was equal to 0.525 grain of ammonia per gallon of the rain water. This is about seven times the amount found volume for volume in rain in normal times of rainfall. It would appear, therefore, that in spite of prevailing winds ammonia had accumulated in the air, which was removed when the rain fell. The result, as shown by these figures, is a relative excess of ammonia in the first shower after a drought. The suggestion is that the first shower of rain which succeeds a drought has in it augmented fertilising properties, and it is probable that this delayed fall serves as a specific stimulant to vegetation apart from the refreshing qualities of rain *qua* rain. It is note-worthy that vegetation rapidly recovers its delightful soothing fresh green aspect when the shower that has been a long time coming at length drops "upon the place beneath."—*The Lancet*, May 11, 1912.

CLINICAL RECORD.

CASES.

By T. W. LEWIS, M.D.

Mrs. John L., age 42, mother of six children, Swedish. Diagnosis: Appendicitis. Second severe attack. History: Had been well except slight attacks of pain in the right iliac region which came on suddenly and would go away as suddenly after a short duration: Found the patient propped up in bed, face red, jerking and twitching of the facial muscles, would not talk, grunted with the pain, temperature $104\frac{1}{2}$, pulse 120 full and regular; could not bear the least jar or motion; I located a small hard tumor in the right iliac region, surface fiery red, painful and very sensitive to pressure.

General aggravations: Least jar, motion, light, lying down.

General ameliorations: Quiet, sitting up, right limb flexed. Bell. 30th, 10 drops in $\frac{1}{2}$ glass of water, teaspoonful every half hour until six P.M. then placebo; Jan. 30, Temp. 102, less pain, slept some, resting quite well; medicine continued. Said, "I am feeling much better." Cont.

Jan. 31, Temp. $99\frac{1}{2}$, Resting well, is lying down sleeping well.

Jan. 31, Temp. normal, sleeping well, pain nearly all gone, no headache, eating some, normal taste, passed yellowish green pus with the stool, sat up in chair while bed was changed. Cont.

Feb. 2, Did not sleep well complained of a throbbing headache, Bell. 30th. two powders one hour apart.

Feb. 3, Sitting up feeling fine.

Feb. 12, Complained of being short of breath when walking, sweats easily on the least exertion, ankles weak and lame, said she was too heavy on her feet. Calc. C. 200 two powders an hour apart. Patient went on pleasure trip to Sweden with husband and family in May returning the last of Sept. does her own work and has not sick to date, (two years).

All arrangements had been made to operate on this patient by a noted regular physician and surgeon, operating room engaged and the time set for the work to be done.

Three regulars had held consultation and concluded that she could not live without an operation.

Grace K., age 5 years, was called in consultation with a regular physician who said he had a case of Cerebro Spinal Meningitis, patient had been unconscious for seventy-two hours with a temperature ranging from 103 to 105. I found this history in the case: The child had an eruption on the face which had resisted the doctor's salves and ointments. He had also given Cod Liver oil and Iron for the blood and finally applied a mercurial ointment which cleared the skin nicely much to his satisfaction.

Four days later the child's temperature came up rapidly, the stupor above described following suddenly.

Symptoms: Intense pallor with fiery red lips, both ears red, great thirst, suppressed urination, suppressed eruption, would not stay covered, nothing distinctive about the stupor.

Sul. 200—2 doses one at 1-30 P.M. other at 4 P.M.

At 11 P.M. passed large quantity of urine, opened eyes and asked for water, lapsed again into a semi-comatose condition, awoke at short intervals during the rest of the night. Next day at 5 A.M.: Temperature dropped to 96, parents thought child was dying. Placebo, every 5 minutes until the child could be packed in hot bricks, bottles and irons. At 7 A.M. the eruption could be detected under the skin; it soon appeared in full bloom. At 6 P.M.: Eruption had covered a larger area than the original attack also looked "uglier" to the parents. Had taken some nourishment and less water during day.

Two days later: Eruption had spread about the ears, oozing a sticky fluid, thick cracked and would bleed. Graph.

Three days later. Patient sitting up in bed feeling fine eruption nearly all gone.

Six days later: Out of bed feeling fine. Has not been ill since.

The nocturnal enuresis which had troubled this child previous to this illness has also disappeared entirely.

Aug. 11, Frank B., age 32, married, warts for years, had tried everything for their relief to no avail. They had been burnt until the joints could be seen at the bottom of large angry looking sores, these would heal up and the warts returned larger than ever.

Warts large and numerous on the fingers, palms, backs of hands, nose, ears, neck and face around the mouth. Large seed warts on the backs of the thumbs.

	Thuja.	1 m.	1 dose.	
Aug. 20	"	"	"	no change.
Sept. 1	"	"	"	" "
Sept. 11	"	"	"	" "

Oct. 7. All the large warts turned white, some small ones gone. Thuja 1 m. 1 dose.

Oct. 23. Large one on right thumb gone. Thuja 1 m. 1 dose.

Nov. 18. All gone but one on little finger. Skin smooth no scars, could not tell where the warts were. Last dose of Thuja. 1 m.

Two years later. General health greatly improved, no return of the warts to date.—*The Medical Advance*, May, 1912.

Cleanings from Contemporary Literature.

THE MILK QUESTION AS IT RELATES TO THE PHYSICIAN.

By CHARLES L. NICHOLS, M.D., Worcester, Mass.

As an economic question the value of milk may be seen when we remember that 10,000,000,000 quarts were used as a food in the United States last year. That means about \$800,000,000 expended by the people for this product. If we recall the recent examination of the milk contractors in this state and in New York, we can at once see that many of these firms have gained riches in the business, and can rest assured that the "poor farmer," so-called, need not be poor in pocket if he were less poor in his methods of producing this valuable addition to our food supply. Let me not be unfair to the farmer, however, for it is true that the demands of modern life and modern knowledge are such that it is impossible for the average small farmer to live at the present price he receives for his milk, if the necessary improvements in his processes are to be made. These demands, just and imperative, will result in the large proportion of small farmers giving up their business, and they have neither the capital to put into new buildings and apparatus, nor have many of them education or the willingness to change their methods inherited from ancestors whose mode of life and physical endurance enabled them to live in spite of the many sources of disease with which they were surrounded.

That milk is an important article of food in this country has been shown by the number of quarts consumed last year, and it should have been stated that this does not include the enormous quantity used to produce the butter and cheese also ingested by us. We can go further and say that in comparing a list of our common foods, including meats, fish, cereals, vegetables, fruits and nuts, there is no other single food which contains the three classes of nutriment—protein, fat and carbo-hydrate—so evenly divided among their constituents, nor is there any other which could be used for food for so long a time as milk, without other admixture. Nuts, especially peanuts and almonds contain a larger amount of nutriment than milk, but these could not be employed as the sole article of food. It is therefore possible to say that milk, because it contains all these food groups in the most correct proportions, and is so easily, rapidly and fully assimilated, is the most important food within our reach.

In a pamphlet issued by the State Board of Agriculture (No. 39) is a Table comparing the economic value of the various common foods with milk. The conclusions are as follows: Milk of average quality at market price, eight cents, furnishes protein and a definite amount of energy cheaper than the more expensive cuts of meat, and much cheaper than oysters and eggs. The cereals supply protein for less cost, but the smaller proportion of that protein and the bulk required to obtain the

same result, excludes them. Vegetables such as corn and celery, fruit such as straw-berries and bananas are much more expensive. Put in another way, one dollar expended for milk furnishes 7·400 calories, while the same amount in sirloin steak gives but 3·417 calories. About the same proportion holds true for chops, oysters, and eggs. In this way we see that milk is both the most important and most valuable food we have. Also that at its present price it is the cheapest food and that therefore we can afford to pay a higher price for an improved product.

The milk of yesterday is no longer possible for us either as house-keepers or as members of the medical profession and the demands we now make of the milk producer are such—reasonable though they are—as must result in an increase in the cost of this food. *Clean* milk is the cry of to-day and *clean* milk we must and will have. It would be interesting to learn who was the first person to call this the Clean Milk question, for no other word could have appealed to so large a class of people or aroused so much determination to secure this result.

Unfortunately this food which we have found so useful for the complex organism of the human race is equally nutritious for other bodies. A large proportion of the bacteria, harmful and harmless, thrive and develop rapidly in milk.

It is of course well known that these bacteria are no menace in themselves, but that the toxic ptomaines and toxalbumin which result from their fermenting power are the cause of illness. Experience and careful research have shown, however, that the bacterial count of milk is a fair index of the health of the community.

It is for this reason that the number of bacteria is watched with such care, and their increase in milk considered such a menace to health. It is true that a large proportion of these bacteria are harmless—indeed many are perhaps essential to health,—but as no test has yet been devised to distinguish between the harmless and harmful ones, we must be content to say that the lower the count the less chance there is of harmful bacteria being present in milk.

Five years ago Prof. Kinnicutt of the Worcester Polytechnic Institute investigated the milk supply of that city. Three hundred and four samples of milk were examined between March and June 1905, fifty samples being taken from private houses, one hundred and twenty-seven from groceries, fifty-eight from restaurants, and nineteen from lunch carts.

The tests used were to determine the number of bacteria in each sample, and knowing the rapidity of bacterial growth to learn the relative care exercised in these various places, and the probable safety in using the milk from such sources. More than seventy-five per cent. of the samples from private houses contained less than one hundred thousand bacteria per cubic centimetre. Fifty per cent. of the restaurant samples

contained more than five hundred thousand and thirty-three per cent. more than a million. Forty-four per cent. of the grocery store samples had over five hundred thousand and thirty-seven per cent. over a million, while seventy-four per cent. of the lunch cart samples contained over five hundred thousand, and more than seventy per cent. over a million.

The inference from this careful investigation is that, while milk in private families was relatively free from bacteria and therefore excellent, that obtained from restaurants and groceries was very poor, and the lunch cart samples were exceedingly bad. The Massachusetts law states that no milk shall be sold containing more than five hundred thousand bacteria. It has been shown that beyond this number milk becomes a distinct menace to the health of the community. Yet the figures above quoted show that forty per cent. of all these samples contained more than that limit and thirty-one per cent. double the amount. It should be stated in defence of our Boards of Health, State and Municipal, which seem to allow this, that their powers in this matter are only advisory and they are not empowered to act with legal authority except in emergencies.

Let us now turn to the death rate to illustrate the importance of clean milk. All infants for the first year of their lives are brought up on milk, and to-day two-thirds of these infants are fed on cow's milk.

In the second year about one-half the infant's food is also milk, and in this case practically all cow's milk. In 1909 one hundred and thirty-six thousand infants died in the United States before reaching the age of one year, and of this number fifty thousand deaths were due directly to intestinal disorders. These figures do not take into consideration the thousands who were sick and recovered, but do show the yearly loss the country sustains from this source alone. Again, in 1905, one hundred and sixty thousand persons died in this country of tuberculosis in its various forms and of this number thirty thousand were infants. The New York State Board of Health has shown by a series of careful investigations that one-fifth of all cases of tuberculosis in young children can be traced directly to the tuberculosis of the cows from which their food was obtained. This source would therefore add six thousand more babies whose death must be referred to impure milk.

We have noted the value of milk as a food; the presence of bacteria in this food, and their effect upon the lives of young children. Let us for a moment ask how these enter into this food product to work such havoc. Normal milk in the udder of a healthy cow is practically sterile, that is, free from bacteria. It was supposed that it was absolutely so, but a small number have been found in so many cases that the term, absolutely sterile cannot be used.

The large proportion of bacteria, however, are taken into the milk during the process of milking, and increase with greater or less rapidity according to the care employed in handling and preserving it after it

leaves the milker's hands. The dirt, hair, or manure of the cow, and the hands and clothes of the milker are the primal sources of bacteria in milk.

There are three classes of bacterial affections: intestinal, contagious disease and tuberculosis.

1. *Intestinal affections.* As was seen, fifty thousand babies under one year died in 1909 of intestinal troubles, but it has not yet been definitely proven what the forms of bacteria are which produce such widespread mischief. The dysentery bacillus is not very frequent, and it is believed that many strepto- and staphylococci, which are so commonly found in milk and which are ordinarily harmless, are the cause of most cases of ileo-colitis of infants. The explanation given is that these bacteria, destroyed so readily in the upper intestine of the adult, meet in the infant with less resistance and hence in the ileum and colon produce the fermentation products which result in ileo-colitis.

These bacteria enter the milk on the scales and hairs of the cow, and in the manure which in small particles fall or are switched by the tail into the milker's pail. This manure is a real existence in milk and it has been estimated that the city of New York drinks daily many hundred pounds of the manure, and that in Berlin the amount rises to one or two tons. Unpleasant as this sounds, manure of itself is no menace nor are hairs or scales, but it is the bacteria which they bring with them and which by their rapid propagation result in sickness and death. In a series of careful investigations Prof. Prescott of Boston reports the following results. A piece of hay one inch long was placed in a quart of sterile milk and kept at room temperature. In thirty-six hours the milk contained over three million bacteria per c.c. Two pieces of sawdust from the stable floor were placed in a quart of sterile milk and in twenty-four hours there were three million bacteria to the c.c. A hair from a cow's flank was placed in a pint of sterile milk. After shaking the milk one minute it contained fifty-two bacteria; and after thirty-six hours over five million were present.

In a general way it may be stated that, under favorable conditions of heat and the proper medium, one bacterium will subdivide and this process be repeated until in seven hours over one million will be produced, or to put in a more concrete form, seventy-five typhoid bacilli in one c.c. (16 drops) of milk under proper conditions will become one hundred and twenty million in two days.

These few illustrations will show what happens to milk containing small amounts of filth, and it would take no long flight of imagination to realize the consequences of less favorable conditions.

Little then as we know of the kind of bacteria to which the first class belong, the result is sufficiently important for us to make strenuous exertion to secure milk which will be practically clean.

2. Contagious Disease. Epidemics of scarlatina, diphtheria and typhoid fever have been frequently traced directly to the ingestion of infected milk. This infection comes, must come, from the contamination of the milk during the process of milking or the preparation for market of this product.

Over one hundred epidemics of typhoid fever in the United States have been traced to this source. The experience of Worcester one year ago is an excellent illustration of this fact, and of the skill of our City Board of Health in tracing the cause. After three cases of typhoid fever had been reported in consequence of the suspicious character of these cases, the Board of Health investigated the milk supply, and found that the distributor was a contractor who gathered from several farms. Each of these farms was examined; one suspicious location was found, and the milk supply stopped within twenty-four hours of the report of those three cases. Later it was proved that the milker in this location was living in the fields, with his cows, in a temporary shed, was suffering from a mild form of typhoid, and had been absolutely without thought of the disposal of the excreta or the care of his person. Over two hundred cases developed from the milk already used, or from the cases thus infected, but not one after the source was cut off. The death rate from these epidemics is too well known to require discussion here, but it well to emphasize the fact that such epidemics are due to preventable causes, and that the part played by milk should be constantly borne in mind by the physician.

The third class of cases induced by bacterial infection—tuberculosis—is so complex that I approach it with diffidence. When Koch in 1882 announced his discovery of the tubercle bacillus the path of the medical world seemed clear, and Von Behring stated "that milk fed to infants was the chief cause of consumption." He even went so far as to demand that no person should use milk containing more than one thousand bacteria to the c.c.—Then came dictum of Koch that human and bovine bacilli were not alike, and the medical world once more asserted the innocuousness of milk. From that date the struggle has been bitter and it is not yet absolutely decided,

The experiments of the United States Department of Agriculture and the investigations of hundreds of careful observers, however, have led to the strong inference that, while human bacilli are not present in cow's milk and bovine bacilli are, the latter are a frequent cause of abdominal tuberculosis which demands a heavy toll each year from the infants of this country.

It was formerly believed that infection by tubercle bacilli was accomplished by inhalation, but within a few years another theory has been advanced, and apparently with strong reason—the theory of ingestion.

A recent article in the Medical Record, (October 28, 1911) by Dr. T. G. McConkey, states that particles inhaled do not reach the lungs but are

ingested, absorbed by the lacteal of the digestive tract and reach the lungs by way of the thoracic duct and the circulation. It is unwise to follow his argument here, but two experiments are of interest. It was proved that "steel grinders' phthisis," and that class of formerly called inhaled diseases, was due to swallowing the dust. This was accomplished by tying the esophagus of the animals experimented upon and feeding some after exposure to the dust. Normal control animals showed dust in their lungs, while those exposed to the dust with closed esophagi and not fed were free from those particles in the lungs.

Other experiments proved that animals could be infected with tuberculosis of the lung either by ingestion of the bacilli or by inoculation in various localities, even at the ends of the tail. As far back as 1909, the United States Department of Agriculture in an article quoted fourteen important authorities, and in particular the volume on this subject by Calmette, all of which show conclusively that tubercle bacilli can and do easily pass through the intestinal mucosa into the lung, and that it is the common mode of infection. In this latter article Aufrecht is quoted as stating that "his pathological investigations show that the initial changes do not spread from the terminal branches of the bronchi, . . . but that they are associated with the terminal capillaries of the pulmonary arteries," a statement which also strengthens the ingestion view.

If now the ingestion theory is proven true, the infection of children by milk of tubercular cows becomes a still more burning question. Leaving out the cases of tuberculosis of the udder (garget), which can be always discovered, the other source of trouble is from manure. The cow, unlike the human species, does not eject its sputum, but swallows it and the resultant passes away with the manure. As seen above this is so commonly found in milk that it is a constant source of infection and with the diminished power of resistance of the infant becomes a very real peril.

We have seen that bovine tuberculosis is a real source of danger to the human species, and that the ingestion theory has strong reasons for its acceptance. If now the theory advanced by Dr. McConkey holds that all tubercular infection originates in childhood, and that its latent stage lasts many years before the pulmonary form develops, we have still stronger reason for suspecting the tubercular cow.

Whether this be true or not, whether direct infection from the cow is common or rare, it belongs to the medical profession to avoid all causes of disease. Altruism is not uncommon, but it is largely impersonal, and it is only when a case comes into our own circle that we are thoroughly aroused over any subject. One of the most noble charities of modern times is that of Nathan Straus, begun in 1894 because of the sickness of his own infant who was fed upon the milk of a cow which died in consequence of tuberculosis. Last year this charity distributed more than four million bottles of pasteurized milk in New York, in addition to stations in other cities in this country and abroad.

It is not my intention to leave you with the impression that all bacteria contained in milk are harmful. Not only are the large proportion harmless, but some seem to be absolutely essential to produce results we desire in the commercial world, of which the tone of butter and the ageing of various forms of cheese are common examples. Lactic acid fermentation, when accomplished by a specific form of bacillus, gives, as you know, a form of sour milk used to great advantage by the profession. It is claimed, indeed, by Prof. Metchnikoff that degeneration of the arteries can be prevented and old age delayed by the use of milk fermented by this particular species of bacteria. The alcoholic fermentation of milk to obtain Koumiss and Kefir, two forms of fermented milk, has been practiced in Russia and the Caucasus for many generations. In spite of this, however, it is well for us to remember that there is no royal road on which the harmless bacteria travel to the exclusion of those which bring to the human race disease and death.

In all these cases the remedy is *clean* milk. This means clean cows, clean milkers, clean handlers, and one more thing too little considered, clean methods in the homes where the milk is used. How this is to be accomplished in a large or even a small city is a serious problem. The milk for the city of Boston comes from various sources, two hundred and more miles from this city. A portion of that furnished to New York City comes from Canada! It is furnished by scores of farms, and handled by a large number of men. This problem, however, is not so hopeless as it appears, and considerable progress has been already effected by constant agitation of the subject and by efficient legislation.

The method of pasteurization, already spoken of in relation to the magnificent charity of Nathan Straus, is employed largely in cases where uncertainty exists in regard to the quality of the supply. On January 1 of this year, I believe, the law was put into effect that no milk should be sold in the City of Chicago except that which was certified or was pasteurized.

Similar laws are being prepared in other cities—or the subject is under consideration toward that end. Over one hundred cities have already forbidden the use of milk from any cows, except those which have successfully passed the tuberculin test.

This step has not been taken without vigorous opposition on the part of farmers and dealers. In Minneapolis an ordinance was passed that all milk from other than such sources should be seized and destroyed. This matter was taken to the courts, and the decision was rendered that it was a legislative rather than a judicial question, but that such legislation was not a violation of the constitutional rights of a citizen. In Milwaukee after exhaustive investigation it was considered proved that bovine tuberculosis was communicable to human beings through milk as a food—that cows infected with tuberculosis disseminated the T. B. several years before symptoms could be detected by physical examination.

Dairymen appealed to the Supreme Court of the State, and were defeated. Also to the Federal Supreme Court with like success, on the point of law. In Iowa, however, a decision against tuberculin testing even was rendered on the legal grounds of municipal rights in that state, while Washington, D. C., reversed that decision for the District of Columbia. Thus you can see how much the country has been aroused on the municipal side of this question.

Objection to the process of pasteurization was very strong because the method used in commerce with large quantities was not real pasteurization and failed of success and hence resulted in a false sense of security; also because the employment of this method still retained filth and dead germs, and seemed to be an easy way of avoiding the expense entailed by clean milk methods. A more serious argument brought forward by the medical profession was that the use of pasteurized milk resulted in scurvy and wasting diseases of the infant. This latter argument seemed so strong and so important that Mr. Straus decided to close his stations last year, but careful investigation by the New York Milk Committee has resulted in a belief that this process did not necessarily induce scurvy and that it was absolutely effective in destroying the germs of tuberculosis and the other contagious diseases often transmitted by milk. The conclusion was that while this process should not take the place of the methods for producing clean milk, it could be used without harm if watched carefully, and should be used until certainty regarding the tuberculosis question was attained or the methods for securing a pure clean article had been perfected.

This then in a few words is the condition of the milk question in relation to the general public today. That cleanliness of process is possible on a reasonably large scale, let me quote Dr. Rosenau of Boston. He stated in Philadelphia this Spring that a man in Brookside a town on the Hudson, had for two years produced day after day a milk for the ordinary market so clean as to be practically sterile by following strictly the precautions employed in the modern milking stables. He said that this seemed a miracle of milk production, but that it was within the reach of any one who carefully and persistently followed out the proper methods.

But no matter how careful the milker or how efficient the handler, and distributor may be, the benefit can be entirely destroyed by carelessness in the home. If this milk is allowed to stand in the sun after it reaches the home, if it is kept open in the kitchen before or after using, if it is not retained at a low temperature until the moment of use there is little benefit in all other precautions. Indeed so important is this question of keeping the milk cold that one of our large contractors stated to me that experiments proved to him that if a milk was cooled at once when taken from the cow, and retained at a temperature not above fifty degrees F. every moment until used, he could guarantee the quality of any milk and its freedom from deleterious effects.

This man keeps a farm for observation purposes, and a bacteriological laboratory at which each specimen of milk from the various sources derived is daily examined in order that the milk he furnished the City of Boston may be kept at high standard. The usual harmlessness of ice cream may be cited as proof of this contention on the part of the contractor.

In addition to the general milk supply of our cities, and because the milk supply is not found adequate to the purpose, the medical profession has demanded a limited amount and an especially improved quality of milk for the infants and invalids under its care.

This end is attained by the labors of the Milk Commission—a voluntary association which secures milk for medical use from farms which are carefully watched by themselves and guaranteed in consequence.

This milk is called *certified* or *inspected* according as the precautions employed are more or less strict. In the former case the bacterial count is limited to ten thousand per c.c., in the latter to fifty thousand—in each case a great improvement over the municipal regulation of two hundred and fifty or five hundred thousand. These precautions mean larger expense and greater care on the part of the farmer but the resulting product attains a price which should and does recompense him for his added cost.

Dr. Geier of Indiana stated that a farmer in the Northwest who produces forty thousand quarts of milk per day from his own farms pays six thousand dollars a year for the inspection of his herds, but finds that it saves him twice that sum in healthy cattle and in actual money return.

The first milk commission was originated by Dr. Henry L. Coit of Newark, New Jersey, in 1890. To-day over sixty milk commissioners are in active existence, and yet, like so many of our methods of charitable effort, these organizations reach but one per cent. of the amount of milk used in this country.

The very rich and the very poor are the only people who can derive profit from this as from most other methods of civic advancement. While the milk commissioners prepare certified and inspected milk for the sick, and this product is confined to that class because of its greatly increased price, the very poor are supplied from clean milk stations.

The first of these stations was opened by Dr. Koplick in 1889, at the Good Samaritan Hospital, New York, and in 1909 there were one hundred and fifty-nine such organizations. The stations are, with few exceptions, opened for the summer months only. To them the mothers bring their babies who are examined by the attending physician during the daily hours; weighed, and recorded by the nurse, and supplied with milk in bottles modified according to the formula required, or with milk and the directions for home modification. In the latter case the nurse follows up this instruction by visit to the home to ascertain if the methods are

complied with. This milk is not given, but sold at a slightly reduced rate, the advice and care of the physicians and nurses being without charge.

A distinct influence has thus been produced on the death rate already and what to my mind is of more importance—the mothers are carefully instructed in methods which will and which already do prevent sickness among the children, and which ought to result in a sturdier race in the coming generation.

The opportunity has arrived for each one of us of the medical profession to educate the laity under our control into a knowledge of and a demand for clean milk, into a knowledge of the proper care of the milk at the home and into the opportunity, if well to do, of fostering and caring for the clean milk stations which are to be used by those others of our clientele who have been less fortunate in this world's goods.—*The New England Medical Gazette*. February, 1912.

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SOME ESSENTIAL POINTS IN THE HOMŒO-
PATHIC TREATMENT OF PULMONARY
PHTHISIS.

By W. THEOPHILUS ORD, M.R.C.S. Eng., L.R.C.P. Lond.
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THERE is probably no disease the treatment of which presents more difficulty to the conscientious homœopath than pulmonary consumption, and that for totally different reasons from those which puzzle the orthodox physician. He indeed has little expectation of finding a drug that can exert any marked influence on the progress of the malady, although hopes have been greatly raised—but hardly as yet realized—by the use in various doses of the many tuberculins on the market. But the homœopath knows that although he cannot arrest the ravages of phthisis in its later stages, he can and ought under favourable conditions to be able to cure it by drug treatment alone in the earlier periods of the disease. Though most of us have the satisfaction of accomplishing this in many cases, and we often see an undoubted cessation of the tubercular processes with restoration to health, we all of us, I think, are ready to acknowledge that sometimes when we seem to have every reason to expect it—relief is not given by our drugs, and, in spite of all that we can do, the case goes to the bad.

The object of my address to-night is to draw attention to some essential points in the treatment of phthisis according to the principles of homœopathy, and to discover any elements of weakness in our methods, which may not only explain the reasons for such occasional failures, but possibly enable us to avoid them in the future. In considering these points I would first premise that when we fail in cases where success ought theoretically to be expected, the failure is not in homœopathy, but in our faulty application of its principles. To acknowledge this will be a first step towards improvement. In hastily concluding that a case is incurable by homœopathy we are apt to confuse science and art. Homœopathy is a science depending upon certain ascertained facts as to the action of substances upon the body, but the application of this science to medical treatment is an art, and frequently a very difficult art to apply with success.

There are two methods of applying the principles of homœopathy; they are known and admitted by all of us—one is as perfect as our science permits, the other is imperfect; one leads to cure (when that is possible), the other more often to palliation or relief of symptoms only. Thus we may administer to a patient either the simillimum to his disease, or a drug that is merely a similar; the former is to homœopathic remedy specific to the case, the other a remedy having only certain symptoms common to the case. By this some good may be done, symptoms may disappear and relief follow, but such a prescription will not effect a cure. We all strive—or we should strive—to select the simillimum, but alas! how often our efforts result only in a similar being discovered, and given with partially successful results. Now whilst a remedy that is merely a similar is more easily found in most conditions than the truly specific drugs, in none I think does the simillimum more easily elude us, and a similar more frequently parade itself before us as the correct remedy, than in the disease I have chosen for my subject to-night. For this there seem to be two reasons. First, the many complications and confusion of symptoms incidental

to most cases of phthisis—except, perhaps in very early stages—and secondly, a faulty method of training in the art of applied homœopathy. From the results of this training many homœopathic physicians in this country—I include myself—are suffering at the present day. To these two difficulties, and especially the latter one, I invite your attention this evening.

In phthisis we have to deal with a bacterial disease, dependent upon the growth, life history, and propagation of the tubercle bacillus in the lungs. As with all such diseases, peculiar obstacles are placed in the way of medicinal cure. Attempts to kill the bacillus by medicinal substances have always failed and probably always will do so. We depend for cure solely on the resistance of the patient's vitality to the intruders. This resistance can be raised or lowered by various conditions and circumstances, after infection has occurred.

What are the means then placed at the disposal of the physician by which the patient's resistance to the disease may be raised? Excluding the supremely important factors comprised in hygiene, fresh air, climate, environment, soil, altitude, and last but not least, diet, as outside the scope of our subject, we may roughly group the medicinal methods of combating phthisis under these headings:—

(1) Old school tonics such as strychnine, iron, phosphates and others.

(2) Drugs, which, though used in large doses as bronchial stimulants, &c., probably have a specific or homœopathic action in some cases; these are creosote, guaiacol, arsenic, iodoform and others common to orthodox practice.

(3) The modern tuberculin series, most of which are isopathic to the disease, but of which the various forms of bovine tuberculin are undoubtedly homœopathic.

(4) Ordinary homœopathic medication—which deals mostly in similars, chosen according to symptoms most in evidence, often prescribed on single particulars only, such as the nature of the cough and expectoration—but which seldom acts deeply on the patient's constitution. And lastly—

(5) Homœopathic treatment based upon attempts to discover the *simillimum*, not to the disease, but to that constitutional taint in the patient that has permitted infection by the bacillus. Scientifically this last method seems to be the most perfect, and the most important, if it be obtainable. It is the one which we are most liable to neglect, whilst even those of us who have sought it have often failed through lack of experience of the best practical method by which it can be attained. But whichever method the physician may select the outcome is always a battle between the resistance of the patient's tissues and the vigour of the invading bacillus; this alone determines the issue.

In applying the ordinary rule of homœopathy, we have usually searched for a drug which has presented in its provings the nearest picture to that presented by the patient's condition. Taking then the common symptoms of phthisis such as emaciation, night-sweats, evening temperature, cough, aided by the physical signs in the chest, we usually prescribe remedies many of which have never been proved to have produced such a condition, but have been employed by us, rather from empirical than from strictly homœopathic reasons. When we find evening temperature, cough, night sweats are the characteristics, we usually prescribe arsenic or iodine, either alone or in combination, whilst the iodides of gold and tin also favourites with many of us. The chest symptoms in particular call for phosphorus, bryonia or ipecac., with various others in common use, whilst in the earlier stages the calcarea salts are frequent favourites. Some of us attempt to employ more deeply acting remedies when indicated, as for example, lycopodium, kali carb. or silica. Such in brief outline is the mode of treatment for phthisis advocated by the average homœopath; it is based upon the teaching of the late Richard Hughes and others of his period and school. None of us would deny the good work done by such drugs; it is far in advance of anything that can be accomplished by old-school methods, and it has yet to be proved that the more modern use of tuberculins can produce equally good results. But is this the best that can be done by homœo-

pathy? Is there not a better and a more scientific way? I have already indicated my belief that there is, but firstly let me point out two difficulties in finding the simillimum by the old plan, which are practically insurmountable: To begin with, the drugs most commonly used, especially iodide of arsenic and the other iodides, have been very imperfectly proved, and the symptoms calling for their use, are very vaguely defined in our text-books. Hence, few of us would care to work with a repertory in an ordinary case of phthisis, and attempting to find a drug covering all the symptoms exhibited, expect it to prove the simillimum to the case. Those who have done so have, probably been disappointed in the effects produced. Personally, for years I had given up the use of the repertory in phthisis—except when confronted by some very unusual and dominant symptoms—finding that it rarely led to any helpful result. This I gladly acknowledge was through no defect of the repertory, but through lack of knowledge as to its proper use, for recent experience has shown me that the repertory wisely used is of the highest value in phthisis, and that without it the simillimum to the patient's constitutional taint will frequently be overlooked. Evidently symptom-covering will not help us to advance beyond those ordinary methods which we find are not as correctly homœopathic as they should be, and to which we must attribute some of our failures.

To illustrate my next point I give an example from practice. Some years ago a young man under my care at the Hahnemann Home, in the early stage of phthisis, was not doing well under iodide of arsenic and other remedies. He had a few gastric symptoms which drew my attention to *nux-vomica*, and I prescribed this, taking him off those drugs which had been given for the condition of his lungs. He at once began to improve, and to my surprise, not only did his stomach troubles vanish, but his lung condition cleared with unusual promptness, and he left the home much better than had before seemed probable. I have seen similar results follow from *pulsatilla* in certain cases, especially in females of the well-known *pulsatilla* type; also from

lycopodium and sepia. Now, none of these four drugs appear to be indicated homoeopathically in such a disease as phthisis; there is nothing in their symptomatology which simulates the characteristics of this disease, nor, were their provings pushed to the uttermost, could we expect them to produce a condition in any degree resembling it. In this respect we should suppose them to be of little or no value compared with the iodides of arsenic or tin with phosphorus or the tuberculin. What, then, is the reason for their success after the failure of those remedies which we may have supposed, from the chest condition, to have been far more clearly indicated? You can all, I am sure, supply the answer. These drugs succeeded because in each case they corresponded to the constitutional taint which was the prime factor in causing each patient to develop the disease—in other words, they were the simillima to the patients, instead of being merely more or less similar to some symptoms of the malady. Here, then, we are carried back to Hahnemann's well-known law—to treat the patient rather than the disease.

In no condition, I am convinced, do we fail more often in giving the relief we ought to give through ignoring this all-important essential of success than in phthisis. Evidently, then, our first object in treating this disease should be to find the *similimum* to the patient, and only by this can we expect to do the best that our science offers. In every case of phthisis that comes before us, I recommend that an attempt should be made to solve this problem before attempting any general medication.

And now as to ways and means: how is this to be accomplished? The first rule I would lay down may sound paradoxical, but it is this: Ignore the disease, and treat the patient as if he had no chest symptoms at all. I trust this advice is not too strong for our therapeutic digestions, but it expresses a practical point, lack of attention to which has been the cause of many failures. Personal experience convinces me more and more that this is an essential point in commencing the treatment of a case.

If this be a correct view, the question will occur to some of us, On what are we to prescribe? What symptoms can be relied

upon for discovering our remedy? In considering this question we must remember that the morbid symptoms produced by the disease give us no clue to the treatment of the constitutional defect, taint, or diathesis, upon which the malady is grafted; and that it is the pre-tubercular condition that calls for treatment in order to enable the patient, by his own vital powers, to throw off the disease. That we can and do relieve the particular symptoms of the malady by remedies similar to them, or to the condition of the affected part, is happily true; but in order to establish full power of reaction, the patient's previous constitutional defect must—if possible—be remedied. It may be contended that this is impossible, and undoubtedly it sometimes is so, but the strikingly brilliant results that often occur when such a remedy can be found should encourage us to always attempt its administration. This I believe to be the most truly scientific and perfect method of treatment yet devised, and one which is far more likely to promote success than any methods devoted chiefly to the particular symptoms of the disease itself. This is in agreement with our belief that in every case that succumbs to the ravages of the tubercular bacillus there exists some constitutional defect that has determined why any particular person should have developed phthisis, whilst another in precisely similar circumstances will have escaped the malady.

There are two difficulties that confront us in attempting this method of treatment; one is peculiar to the patient, and the other common to most cases of the disease. The first is a paucity of general or constitutional symptoms, and the second the old trouble in phthisis of not seeing a patient whilst his vital powers have still sufficient energy to throw off the disease. We will then, consider the mode of obtaining symptoms indicative of the patient's constitutional type which may suffice to guide us to the required simillimum. For this we must go back to Hahnemann's advice for the treatment of chronic disease. And here we must not go wrong in attempting too much, that is, to cover all the symptoms of the case; but remember that we are now concerned only with the patient's general condition as it existed before

infection. These symptoms will now have become masked and confused by the particulars indicative of his present diseased state. We must therefore elucidate the required symptoms almost entirely from the patient's condition before the disease became evident. Although Hahnemann advocated this method in chronic maladies, his advice has been in practice frequently ignored by his followers. We have to thank first Dr. Kent, of Chicago, for the present revival of these important principles of treatment, and secondly, those who, having learnt from him, have endeavoured to spread a knowledge of this method among ourselves to-day. The essential point of this is to distinguish the symptoms of the diathesis from those of the disease.

It may be well here to enter a caution against any tendency to carry this method to extremes; we are certainly not justified in relying solely upon the use of a single dose of a high dilution once a month or less often, and, if the patient goes to the bad, calmly assuring ourselves that we have done all that homœopathy can do for him. Few of us would regard such a proceeding as suitable treatment in phthisis, however well it may answer in other more chronic conditions. What one would rather advocate is a more faithful and careful application of the principles laid down first by Hahnemann. This should be done not so much with the expectation of curing phthisis (which it is not within the power of unaided medicine to do), but rather for the purpose of correcting that pre-phthisical taint or diathesis which both prevents reaction to other proper remedies and also so weakens the patient's resistance that his vitality entirely fails to throw off the malady. For this purpose we require symptoms which will reveal to us the constitutional type of the patient, and, as we have seen, only those which existed before his malady commenced can prove reliable guides for a prescription. For those cases where no such indications can be obtained, our method is unsuitable, and we must do the best we can with those symptoms developed by and during the disease. The indications which we require are chiefly those known to most of us as "generals," but we may find help from particular symptoms which have

been frequently experienced by the patient in his past life, referred to certain organs only; but for our purpose general symptoms are by far the most important. Some of us have recently had the privilege of listening to an admirable exposition of these principles, and the best methods of putting them into practice, by our colleague, Dr. Weir, and I here cordially testify to help received from him, and for the light he has thrown on many puzzling points. There is no need, nor is there time for me to go minutely into a subject he has treated so much better than I could, and with the details of which many of you are well acquainted.

[A short survey of general symptoms was then given by the author.]

Having commenced our special treatment we next consider what effects are to be expected from the medicines, and how long we are to wait for them. This brings us to the great difficulty, inseparable from the medicinal treatment of phthisis, and in which it differs from most forms of chronic diseases. For in the latter we are usually treating a patient who exhibits, either continuously or periodically, some definite symptoms, by which his disorder is manifested, and by increase or decrease of these we can tell whether our remedy is acting. But in phthisis a different condition prevails, and the difficulty of recognizing definite drug effects is greatly enhanced. In fact a very gradual improvement in the patient's condition, with later on a diminution in secondary symptoms (if any exist) is at first all we have to go upon. The question is also complicated by the fact that the regulations as to rest, diet, environment, &c., under which we have placed the case, will in the earlier stages have usually done good and improvement will very likely have been evident even before the remedy was given. If, however, a few days after giving the remedy we find a gradual gain of weight, increased power of assimilating food, and decrease of evening temperature, we are justified in supposing that the drug has been well chosen, and is commencing to work. With out-patients and those whose home conditions we have little

control over, increase of weight is the most important symptom, and of much greater value than any transient change in the cough, to which patients naturally attribute the chief importance.

Those of us who treat chronic disorders with infrequent doses of a high potency will have been accustomed to look for an aggravation after the first dose, if the remedy is the right one. It is more difficult to detect this in phthisis than in any other condition, and I have not found its occurrence of use in indicating medicinal action. This is chiefly because temporary aggravations from trivial causes characterize the disease, and also because the acute symptoms being due to bacillary activity are not so immediately affected by the patient's drug reactive powers as they are in other maladies. It may be that, as we are told by those who use the highest potencies, aggravation is far more common with them, but I find that with the 30th dilution it is rather the exception than the rule.

The next point essential to our treatment is the repetition of the dose. We all know the important rule of not to repeat so long as improvement continues. Are we justified in phthisis in withholding a second dose so long as the case does well? Undoubtedly in phthisis the improvement may be due to other causes, and our remedy may be having no real effect. By such delay we may be depriving the patient of the benefit of some other drug which his constitutional condition requires. This is a most difficult question, and one for which it does not seem possible to formulate any rule. If we seem to have recognized a drug aggravation which rapidly passed, doubtless we may well wait, but this is seldom a reliable guide in phthisis. But when evident improvement has commenced a few days after giving the remedy, we need not hesitate to await results, and defer giving a second dose until the case begins to flag and progress ceases. When improvement has commenced before we gave our remedy, and has continued apparently unaffected by it, we are doubtless justified in waiting further developments for a time. If progress is very slow, or seems to have come to a standstill, it is a good plan to try the

effect of a single dose of a higher dilution, such as the 200th. If the remedy is correct, this will probably give some evidence of its action.

I will now consider the cases which do not improve, and in which we have reason to suppose either that the drug selected is not the simillimum, or that the patient's powers of reaction are too feeble to respond. The case being under proper hygienic and dietetic conditions, and everything possible being done for his benefit, we shall have expected some amelioration or aggravation to have appeared from drug action during the first two weeks. But if none such occurs, and a careful re-consideration of the symptoms convinces us that we have chosen the correct remedy, two further doses—one night and morning—should be given a week or more after the first. It may be said that this is too soon, but such is not my experience, although if the case does not call for urgency there may be no objection to waiting another day or two. After this interval I think one rarely sees any drug effect from the previous dose. But should this fail, after a similar interval two doses of the 200th dilution should be tried. This higher potency will sometimes stir up reaction when the 30th has failed. Longer than this I do not think one is justified in waiting as a rule, though in sluggish patients who are neither gaining nor losing it may be permissible to try another remedy. But, failing this reaction which we ought to get—a circumstance of ill-omen for the patient—I proceeded to use such remedies as seem indicated by the active symptoms of the disease, and regretfully abandon the attempt to obtain a constitutional effect. It is not a bad plan, however, to begin this treatment by a low dilution of the supposed constitutional drug, which will sometimes cover the more acute symptoms also.

It may perhaps be of interest if I conclude my paper with a brief reference to the use of tuberculin, and their homœopathic action. It is doubtful whether these fulfil the two essentials of homœopathy : first, that they should be “similar,” not identical ; secondly that they should be capable of producing similar symp-

toms in a healthy rather than in a diseased person. The good effects claimed by those who use them—and which in some cases are undoubted—are due to the use of an isopathic remedy in a more or less attenuated form. This corresponds with the old method of curing snake-bite by swallowing the poison, and of our own use of nosodes. That such remedies are sometimes useful we need not deny, the nosodes especially for the remote after-effects of their respective diseases, but I am not aware they are of use in the acute stages. One would not then expect high attenuations of tuberculins to be much in active phthisis, but rather to assist us in remote conditions depending on a latent tuberculous taint. This may explain why, judging from symptoms alone, the tuberculins are so seldom called for in treating phthisis. But it may also be true that had we a more complete symptomatology of such drugs they might prove to be more frequently indicated. Personally, I have for some time given up the use of ordinary tuberculin in phthisis in favour of bovine tuberculin, which has more pretensions to being actually homœopathic, as it is similar to the disease and not the identical substance. In cases which are being treated on the older plan of frequent doses, the occasional administration of bovine tuberculin 30 is of undoubted value, but I have never succeeded in carrying a case through by its use alone. This difficulty may be due to the incompleteness of its provings, for we seem to have lost the power of proving remedies as did Hahnemann and his disciples; probably great provers, like great painters, are born and not made. Unfortunately, very few persons show that peculiar susceptibility to drug action that can alone provide these lights and shades of symptomatology which are of such importance to us in the great polychrest remedies. Amongst these it is quite probable that tuberculin might have been included, could it have been proved by our illustrious master and his pupils. For these reasons we do not seem to be justified in claiming the modern methods of tuberculin treatment as “homœopathic” in their action. The injection of gradually increasing doses of the tuberculins, avoiding as much as possible dangerous

reaction, until in the course of many months such a condition of tolerance has been established that the largest doses fail to produce reaction, may enable the patients that survive the process to throw off the disease. But judging from the conflicting reports of many observers, most of whom advocate very different varieties of tuberculin, and also disagree widely as to the doses and methods used, it would seem that no settled plan of successful treatment has yet been evolved. In fact there are signs that a sense of failure—not yet acknowledged—is beginning to affect those who have hitherto loudly proclaimed the supposed successes of such treatment. This need not discourage those who have more certain guides to depend upon. I frequently see and treat cases which have gone from bad to worse under these methods, and have found that many of them rally and some do very well under strict homœopathy, and I have yet to be convinced that any tuberculin treatment produces results equal to our own. It is surely better for us to leave our old-school colleagues to work out their own salvation, whilst for ourselves better results may be expected from a careful application of the points I have had the honour of emphasizing before you this evening. Especially will this be so if you accept the explanation of some of our failures for which I have been contending, that is, in our neglect of that constitutional taint which is the underlying cause in each person who succumbs to the ravages of the tubercle bacillus. If normal immunity can be re-established during the earlier stages of phthisis, the patient will recover. It is by treating the constitution rather than the disease that we may hope to achieve this. Homœopathy in its highest development, and in the most accurate application of its principles, is so far the only system which, on scientific ground, gives us good hope of success in this endeavour.

DISCUSSION ON PULMONARY PHTHISIS.

The PRESIDENT said Dr. Ord had brought forward the great importance of treating patients' constitutions. They knew that phthisis was cured without medicines at all, and the difficulty was, of course, to know the exact constitution of the patient.

Patients seemed to show some fifteen or twenty kinds of constitution, and he thought it was only occasionally they got what might be called a pure drug constitution, one that answered definitely and decidedly to some one drug. Dr. Ord had mentioned that the proper way to find out the constitution of patients was to neglect altogether the symptoms of the phthysical condition. If this could be done, well and good ; but it was often quite impossible, and he (Dr. Stonham) thought they would be depriving themselves of great aids to treatment by neglecting altogether the symptoms. In his opinion the disease would often bring out the constitution of the patient. The patient would have certain conditions of amelioration and aggravation to weather and so on. He was at that time treating a case of phthisis successfully so far with sepia. He had found out she had a sepia constitution and he would not have found that out purely from what her condition was before the disease attacked her, but he had found it out in consequence of certain symptoms the disease had brought out. Whether treatment of a disease like phthisis would be ultimately cured remained to be proved. Dr. Ord had not told them he had absolutely cured any case by the method described.

Dr. BLACKLEY said Dr. Ord had given them a very interesting and suggestive paper and one from which they would derive a great deal of benefit in reading over in their study-chairs. He would like to join issue with him to some extent. For instance, he would like to say if the statement were not too sweeping that he personally would be inclined to leave constitutional remedies altogether alone and address himself to local conditions if they could be made out. He would treat a case of tuberculous trouble situated in a limited area in the lungs on a pathological basis. He was not speaking from theory but from the result of a very long experience. When one got a small pack which was dull on percussion, where signs of breaking down were absent or very few, but where the patch was of a definite and ascertainable size, then he would begin treatment, not by any attempt whatever to seek out the proper

constitutional remedy, but to help nature in what she was endeavouring to do. First of all by aconite, which he considered to be one of their most helpful drugs in the treatment of pulmonary tuberculosis, and after that phosphorus. He considered these two remedies had done very much, over and over again, towards the ultimate cure of phthisis. It was hardly necessary to say that they must have cases early. Then when the local conditions were clearing up they might turn to their repertory as a means to an end. After choosing the drug from a repertory they should look out and see how far the general complex of symptoms agreed with the case in hand; in fact, that the symptoms in their character and mode of evolution agreed with those of drugs whose pathogenetic phases of development were on record.

Dr. WHEELER differed from Dr. Ord in thinking tuberculin was isopathic. The speaker regarded it as homœopathic. He thought the whole difficulty was in deciding the distinctive indication for its use. He had no doubt that all tuberculins had their place, but they did want the indications better worked out. The best way would be to prove them. The man who had used them with the most discrimination was Dr. Nebel, who used various varieties of tuberculin and even Marmorek's serum in potency. It was generally taught that tuberculin should not be given in acute stages: he thought it could be given with benefit in some acute cases, but preferably in medium dilutions. From the higher dilutions little or no good would come, but there was a sphere for tuberculin in about the sixth, and the sixth or third was far removed from a material dose. Personally, the speaker would give it by the mouth. He suggested that infrequency of repetition was more important than the dilution employed. The problem in phthisis was the mixed infection. The symptoms of later phthisis were nearly always due to adventitious germs, and he thought this point had been neglected, and it was on this point he hoped tuberculins might help them more. The result of a remedy like lycopodium was due, he believed, more to its effect on adven-

titious germs than on tubercle. It was often given too high in the later stages: this was a risk, and he believed lycopodium could be of the greatest value in a dilution of about twelve. There was no doubt a great deal could be done in working out the different kinds of mixed infections. It was a work he wished they could undertake in that hospital. It was a pity they were not allowed to take phthisis pulmonalis into that hospital; if they could they might find out the relationships between the classes of infection. Dr. Allen had definitely said, for instance, that if he found the *Staphylococcus albus* in a case of tuberculosis that it would be a chronic one. Considerations of this kind might be a great help in treatment. He considered they were justified in regarding tuberculins as homœopathic remedies of very great power. For his part he relied on them increasingly, and in regard to actual results he had been astonished and interested to find what could be done even in the unfavourable conditions of out-patient treatment. They were used to sanatorium treatment which gave the patient a fair measure of vitality, but in out-patient practice it was astonishing what results could be obtained, and this was due to the remedies received because such patients could not get the general treatment afforded by sanatoria.

Dr. ROBERSON DAY said he had had some time ago a little girl of about 12 under his care who had had the advantage of all this sanatorium treatment, but she went steadily downhill and as a last resort was sent to him. He recognized the case as almost hopeless, but the benefit she obtained from homœopathic medicines then given was so remarkable as to justify his saying, as he had always maintained, that sanatorium treatment ought to be supplemented by medicinal treatment, and by that he meant homœopathic treatment. This child was hectic, the temperature was raised at night to 90° or 100° and subnormal in the morning; she had no appetite, was profoundly weak, she was too ill to walk, and had a racking cough at night which prevented sleep. Physical examination revealed the disease in the third stage, the chest was extremely flattened and there was

a large cavity at the left apex. Of course he could not promise to do much. Phosphorus was the principal remedy used and gave the best results. It soon checked the cough, the appetite improved with improvement in the cough, and sleep was restored. It was given in the third or sixth dilution and he thought occasionally the twelfth. At the same time he gave tuberculin in weekly doses, generally in the 30th dilution, and latterly bovine tuberculin. The child was so greatly improved that she took daily walks and was looked upon as a resurrection. Unfortunately one day, feeling extra well, she was allowed to do much as she pleased, and she lifted a heavy basket, ruptured a vessel, had a profuse hæmorrhage and died in a few moments.*

This case, as one of many, illustrated what homœopathy could do. The last few weeks of her life showed enormous improvement. She enjoyed life again and was full of hope.

Dr. MILLER NEATBY thought that in relating individual cases of the cure of phthisis the natural history of the disease should be carefully borne in mind. It was known that sometimes very advanced and desperate cases got well of themselves apart from any particular line of treatment. He was glad that Dr. Wheeler had done something by his remarks to reinstate tuberculin as a genuinely homœopathic remedy. The mention of tuberculin as a therapeutic agent reminded him of its use in diagnosis. How were they to diagnose extremely early cases of phthisis? Mention had already been made of what one should do when one found a very early patch of consolidation. But one often suspected the condition before there were any definite physical signs in the lungs. Disorders of the digestion, quickened pulse, and a slight rise of temperature at night, were certainly often found in the earliest stage of phthisis, but they might be due to other causes. Many cases of this kind were sent to sanatoria and were there decided to be non-tuberculous. What was the diagnostic value of tuberculin? Tuberculin used diagnostically at the Koch Institute in Berlin had yielded positive results in an enormous percentage of cases of influenza,

bronchitis, syphilis, gonorrhœa, gastric ulcer, and appendicitis. To prove too much, however, was to prove too little.

The question of dilution or potency was of eternal interest. He was interested to hear from Dr. Ord that aggravation was not in his experience usual after the administration of drugs in the 30th centesimal. He himself had had the same experience with the 200th centesimals, which he had used freely and which he believed to act very much as the thirties did.

Was not Dr. Ord's recommendation to treat the phthisic on constitutional lines, and neglect the chest symptoms tantamount to throwing over the "totality of the symptoms"? However, he (Dr. Neatby) hoped that at some future date Dr. Ord might supplement his interesting paper by another giving the results in a series of cases treated on the constitutional lines he advocated. A series of cases successfully treated on these lines would have a real educative and propagandist value.

Dr. HERVEY BODMAN said he would like to ask Dr. Ord one question of practical importance, and that was whether in a case of early pulmonary tuberculosis first coming under one's care, one should advise sanatorium treatment or that the patient should continue at home under homœopathic treatment. In all large municipalities there were facilities for the poor to obtain free sanatorium treatment, and therefore one had sometimes to advise a patient as to whether he should make application for a free bed in the sanatorium available for his case. He asked about this for guidance as to whether patients should be encouraged to remain under homœopathy, applying hygienic principles in their own homes, or whether they should forego the advantages of homœopathy for the sake of the sanatorium. If the patients had a fairly good home and seemed capable of intelligent carrying out of the necessary *régime*, he personally encouraged patients to remain under homœopathy rather than to go to a sanatorium. In Dr. Ord's view there was in every case something more than the infection, namely, some underlying tendency which had to be dealt with. He thought this view was confirmed by a case which he had recently had under

observation. A clerk in the service of a railway company suffered for several months from melancholia of the profoundest type with marked suicidal tendency. In course of time the melancholia became less marked, and an acute phthisis developed. As the lung condition developed the mental condition became normal. He thought Dr. Kent had pointed out that insanity and tuberculosis were inter-changeable. He might say that the ultimate result of this case was that in spite of the involvement of nearly the whole of one lung, and the occurrence of copious hæmorrhages, the patient was now practically well, having put on about two stones in weight, and was now in full work again. He had been treated chiefly with iodine 3x. Instead of being aggravated by cold he was always better in cold weather and worse in hot. He had also been given occasional doses of tuberculin bovinum 200. He would like to know whether Dr. Ord had seen any cases which supported that view that it was possible for mental disorder to be transmitted into phthisis or *vice versa*.

Dr. ORD, replying, said he would like to emphasize his position with regard to the method of treatment here described; he had not advocated it as an exclusive method, but one which in some cases was an improvement on others. He had been brought up under Dr. Richard Hughes himself, and he owed him a deep debt of gratitude for the help he had received; but he did not think Dr. Hughes' methods exhausted the whole of homœopathy. In regard to the use of tuberculins, he had used them for years, but now used *tuberculinum bovinum* in preference. He believed that it was more strictly homœopathic. Dr. Wheeler had suggested that ordinary tuberculin was homœopathic, because of the way it was prepared; but, even granting this, it still failed in the test of producing similar symptoms in a healthy person. With regard to the value of chest symptoms in selecting the remedy, he did not mean that no constitutional symptoms could be taken from a phthisical state. It was quite true, as Dr. Stonham had suggested, that symptoms would come to light during the disease that might be of value; but he thought that the chest symptoms were the ones least likely to help in discovering the constitutional

type, as they depended more than anything else upon the effect of the tubercular poison.

In reply to Dr. Bodman as to sanatorium *v.* homœopathic treatment, his decision would depend upon the environment of the patient and the advanced condition or otherwise of the disease. If the patient were under unfavourable conditions, and in an early stage of phthisis, then Dr. Ord thought he should go to the sanatorium, and *vice versa*. But each case must be treated according to circumstances. With regard to the case with mental symptoms mentioned by Dr. Bodman, he thought they might have been due to commencing tubercle of the meninges, which cleared up when the chest symptoms developed. He had never seen a case, though he had seen the opposite occur—chest symptoms disappear when tubercle started in the brain. In conclusion, he thanked members for their kind reception of his paper.—*The British Homœopathic Journal*, May, 1912.

EDITOR'S NOTES.

Spices.

The *Lancet*, April 20, 1912 has the following interesting note on Spices :

The spices are a very interesting group of substances; they are the foundation of a considerable industry, they have their medical uses, and finally are of special importance in dietetics. Their value resides in their richness in aromatic substances and essential oils ; strictly speaking, they are not foods, but often enough they are essential elements in the diet. Spices have the subject of classic research, as for example, in the clever and important investigation which Pawlow undertook as to the psychic influences of food and as to the value of zest in nutrition. Spices were shown to arouse appetite and to promote the secretion of the gastric juice, and the role they play therefore in dietetics is a very important one. The medical action of some of them is further of value. Allspice, for example, is used as an aromatic and has been successfully administered for flatulency or for overcoming griping due to purgatives, and occasionally it is reported that the oil gives relief in rheumatism and neuralgia. The medical uses of cinnamon are well known. Cardamoms are used in the form of a tincture as aromatic and stomachic, and they are also employed as a flavouring agent in curry powder, cakes, and liqueurs. The applications of capsicum and the peppers generally are well known. Cloves are aromatic, carminative, and stimulant, and have been used in dyspepsia, gastric irritation, and in cases of vomiting in pregnancy. Oil of cloves is also a popular remedy for toothache. It has also its uses in microscopy as a preservative and for clearing sections. The uses of nutmeg are wide, vanilla has an enormous application as a flavouring agent, while turmeric enjoys a similar patronage on account of its bright yellow colour and pleasant musky flavour. We have not quite exhausted the series, but sufficient has been said to show how important a place the spices occupy in human affairs, and the recent publication of a book upon the subject, which contains some very interesting details as to the cultivation and uses of spices, serves to refresh our memory with that fact.

The Decrease of Fertility.

Herbert Spencer thought that fertility diminished with civilization as a necessity of evolution. Darwin appears to have believed similarly. Doubleday assigned overfeeding as a cause of decreased

fertility and claimed that underfeeding stimulated fertility. At any rate there exists a tendency in every civilized nation to restrict reproduction of the species. Some causes incidental to civilization are obvious; for example, postponement of marriage or avoidance of marriage. Yet such causes do not fully explain the steady decrease of the birth rate which has taken place in France and which it now taking place in England and among some classes in this country. Newsholme expresses the view that the main cause of the modern very small family is that the parents, and especially one of the parents, do not wish for many children, and accordingly the limitation of the family is largely volitional. Undoubtedly the fact that a large proportion of the population live in cities is responsible to a considerable extent for small families. In New York and in other American cities there is a distinct relationship between small families and apartments. Apartments and large families for many patent reasons are not compatible. But it is not in this country and in France and England alone that the prevention of large or even fair sized families is common; it prevails in all civilized lands.

We should go slow with the eugenic program, for there are many standpoints from which to consider this large subject. One thing is certain, that there is need for encouraging the propagation of the fit and discouraging the multiplication of the unfit.—*Medical Times*, May, 1912.

Polar Exploration and Medical Research.

Medically, the interest of polar exploration lies chiefly in the knowledge which it may afford of the physiology and powers of resistance and endurance of the human organism under extreme climatic conditions. The problem of success consists essentially in protection against cold and exposure and in the maintenance of an adequate food supply. It has been recognized for some time that intense cold of itself is not productive of disease. The unanimous testimony of Arctic explorers has been that as long as they were among the ice fields they were free from influenza, tonsillitis, bronchitis and pneumonia, diseases which, however, many of them contracted on their return to the infective environment of warmer climates. They might perish of hunger or exhaustion, but not of inflammatory processes. With adequate clothing and opportunity for shelter, the human being can, apparently, withstand an intense degree of cold for a considerable time. It is reported that

Amundsen's men were quite comfortable in calm weather at 68° below zero Fahrenheit, though they found travelling impossible during a gale at that temperature.

Should it turn out that two explorers working independently, have discovered the South Pole, we shall be reminded of numerous other scientific achievements similarly distinguished. The demonstration of surgical anesthesia stands as the chief instance of simultaneous discovery on the part of two investigators. We will amend this statement and say "nearly simultaneous," for we have no wish to offend the partisans who are still engaged in a settlement of the question. It is, however, a remarkable fact that whenever human interest becomes sufficiently focussed on any unknown thing, its discovery is often synchronously accomplished by separate workers from different points of approach. Very likely the same may prove true in the case of cancer, at the present the most important problem in the field of medicine. After all, the most important discoveries and battles are those of science and civilization, and great though the romance and heroism of polar exploration may be, the greatest are those of medical research and conflict.—*Medical Times*, May, 1912.

The Passing of "606."

The following letter to the "Editor of the Lancet," June 29 will be read with interest:—

SIR,—Of the making of new preparations of arsenic there appears to be no end. Atoxy was followed by arsacetin, with variations in the form of soamin and orsudan. Then came arsenophenylglycin and salvarsan. Each of these was said to be better than its predecessor, and when salvarsan appeared the millennium was in sight! But, although salvarsan has hardly been in use for two years, it has already been superseded by "neosalvarsan" or "914." No doubt this will be followed by other modifications or substitutes. Now, if there were any evidence that arsenic cured syphilis—for the basis of all these preparations is arsenic—there would be some reason for their continued manufacture, but there is no such evidence. Arsenic is nothing more than an auxiliary drug in the treatment of syphilis, and a dangerous one too. The organic preparations of arsenic are especially dangerous, owing to their unstable composition and liability to toxic effects. Unfortunately, the scientific value of chemio-therapy has been overshadowed by the commercial element.

Hints of the Remedy where Origin of the Illness is Known.

The following is taken from the *Journal of the American Institute of Homœopathy* for May, and is interesting no doubt, but may not be true in all cases :

Ills arising from exposure to dry cold, to dry cold winds, sudden cooling off when overheated "colds from sitting in draughts." *Aconite* 3.

Ills following blows, heavy concussions, jarring and falls, *Arnica* 3.

Ills caused by drinking ice water, ices or ice cream, *Arsenicum* 6.

Ills following punctured wounds from nails, needles, tacks, pointed instruments, etc., *Hypericum* 3.

Blood poisoning from cuts with any infected instrument, *Lachesis* 6.

Wakefulness with ideas surging through the mind ; if caused by coffee don't drink it, otherwise *Coffea crud.* 3.

Ills from whiskey drinking, *Nux vomica* 3.

Ills from beer drinking, *Kali bichrom.* 3.

Ills from eating fatty food, *Pulsatilla* 3.

Ills from sea air, "can't stand the seaside," *Natrum mur.* 6.

Ills from sprains or wrenches, *Rhus tox.* 6.

Ills from frost bites, *Agaricus mus.* 3.

Ills following vaccination, *Thuja* 30.

Ills following suppressed eruptions, *Sulphur* 6.

Ills following taking too much allopathic or patent medicine, *Nux vomica* 30.

Ills from sunstroke or prostration from sun heat, *Glonoinum* 6.

Ills following sudden plunge in cold water when overheated, *Bellis per. O* pellets.

Ills from excessive loss of blood or fluids, *China* 3.

Ills following too long retention of urine *Causilicum* 3.

Ills following amputation, pain, etc., in "stump," *Hypericum* 3.

Ills from smoking, *Plantago maj.* 6; chewing tobacco, *Arsenicum alb.* 6.

Grief following death of loved ones, silent and hopeless, *Ignatia* 6.

Ills following mosquito bites, *Ledum* 3.

Ills from cold, wet weather, *Rhus tox.* 6.

Complexion and Climate.

The oft-asked but never satisfactorily answered question whether blonde or brunette girls make the best wives is doubtless familiar to most of our readers ; but this battle of the complexions has assumed another phase, and a new controversy has arisen over the point whether the fair or the dark men are the best fitted to stand the effects of prolonged residence in a tropical country. It is obvious that this question is of considerable importance to nations whose sons are sent forth to take their share in government colonies and dependencies, whether as civil servants or as members of the military or police forces. The commercial community engaged in exploiting the resources of such regions is also deeply interested, as well as other persons, in obtaining a correct answer to the question. There is not as yet a general consensus of opinion as to what precisely is the chief cause of deterioration of the white man's health in a hot country. Many maintain that it is entirely the height of the atmospheric temperature, while others ascribe it to the large proportion of chemical or ultra-violet rays contained in the tropical sunlight. Other factors have also been brought forward, among which may be mentioned unsuitable food, bad water, and, perhaps most important of all, the prevalence of various parasitic infections, more particularly those which are spread by blood-sucking insects. Excessive heat along with humidity without doubt causes a disinclination to take active open-air exercise, and this unfavourably affects the health. Isolation from friends and relations along with the monotony arising from the absence of accustomed social relaxations may lead in particular cases to undue indulgence in alcohol or to other exercises prejudicial to mental and bodily health. In order to throw light upon this subject an investigation was recently undertaken by Major Weston P. Chamberlain, of the Medical Corps of the United States Army, who, in his capacity of President of the Army Board for the Study of Tropical Diseases as they exist in the Philippine Islands, had special opportunities for carrying out an inquiry of this kind. His results were lately published in the *Philippine Journal of Science*, Vol. VI., No. 6, in a paper entitled "Observations on the Influence of the Philippine Climate on White Men of the Blonde and of the Brunette Type." A large number of his observations were conducted upon two groups of men, about 500 of whom were selected as typical blondes and 500 as typical brunettes, from among the American military and police forces serving in the colony. A number of detailed

physical examinations and laboratory tests were carried out, and the relative amount of sickness occurring in each group was noted. Some data were collected as to the relative proportion of blondes and brunettes invalided home, as compared with proportions of the same types among 10,000 enlisted men in the United States Army. Particulars were also obtained of a series of cases of sunstroke and heat exhaustion occurring in the United States in which the type of the patients' complexion had been recorded. It seems at first sight natural to suppose that dark-complexioned persons would best stand the effects of a hot climate, since the natives of the torrid zone are all dark skinned; and this pigmentation and similarly the tanning of the Caucasian's skin might be regarded as a protective effort of Nature against the chemical activity of sunlight. The negro stands a hot climate well owing to a certain anatomical difference in his skin, which keeps cooler than that of the white man, this being the result of the sweat glands of the former secreting more evenly and more copiously than those of the latter. Major Chamberlain thinks it doubtful if the actinic component of sunlight is a factor in what is termed the tropical deterioration of health in the white man. The experimental work of Aron at Manila on the action of the tropical sun on men and animals seems to show that its deleterious influence is due to the long heat-rays rather than to the short length ultra-violet waves. The evidence collected by Major Chamberlain was in certain particulars conflicting, but this is what might be expected if there was no real diversity between the two types as regards resistance to tropical influences. The differences which were noted were so slight that no clear distinction can be made as to the effects of climate upon fair or dark men. This naturally suggests that some other factor than complexion has a share in affecting the results. While it appears as a result of Major Chamberlain's investigations, that in selecting men for service in the tropics the colour of the complexion need not be considered, there is also this further indication—namely, that one of the main factors in the maintenance of health in hot countries, is proper sanitation, using the term in its widest sense, and including in it extermination of insects and other vermin with destruction of their haunts and breeding places.—*The Lancet* May 11, 1912.

That the climate has a positive effect upon colour, there is not the least doubt of it, and a single experiment cannot prove this otherwise, unless it is carried on through ages. The Brunette and the Blonde type of men or in other words the blacks and the whites have certain susceptibilities in different climates such as hot and cold.

This is a fact beyond any contention. A single generation may not feel it, but a continuous stay of a blonde in a hot climate will prove without doubt that deterioration has taken place in their progenies. Here in India we have ample proof of this. The Europeans who first landed here had a certain capacity for work, but their offsprings gradually denuded to the ordinary level of the people of the land. If Major Chamberlain could carry his experiment for generations together then his conclusion might have been rational. A few years' or one generation's work is nothing in the long run of human life. [Ed.]

• Too Many Fingers.

Curious Instance of Heredity in a Russian Village.—In the village of Koshilovo (Grondo Government) there are over fifty peasants who have more than the usual number of fingers (says Reuter). According to interesting particulars published in the "Novoe Vremya" they are all descendants of a peasant who married in the first half of the last century and who had extra fingers on one of his hands. In the present generation this abnormality is reproduced to the extent of two, three, four, or even five additional fingers. Some cases simply show a thumb duplicated from the first joint. As the result of intermarriage, the deformity is spreading to neighbouring villages. It dispenses the young men from military service, however sound they may be constitutionally.—The *Homoeopathic World*, June 1, 1912.

The Gradgrind View of Existence.

A State Board of Health recently estimated the value of a baby at \$4,000. A college professor held it to be worth \$150,000. Another college professor held the value of a man to be but \$20. A German scientist computes the average man or woman to be worth between \$7.50 and \$10. There seems something very seriously wrong with a civilization which would put a money—a Gradgrind—value upon entities which it were essentially impossible to evaluate upon any material basis. Whether the agitation is for pure milk, or for safety appliances in industry, or for tuberculosis prophylaxis, it seems to be assumed that the body politic cannot be suitably impressed unless the matter is presented in monetary terms. If it is really true that humankind cannot be got interested in human welfare unless the saving in money can be figured out and presented, there would

seem to us to be something very wrong. This new procedure (some speak of it as a habit) of interpreting humanity in money values is on reflection down-right coarse and unutterably mean. Besides, it is surely a fruitless procedure; for what normal mind would be impressed by arguments based on such evaluation. How futile it is to represent that every death from consumption means a loss of so much money; or that every child over the age of two has a capital value of so many thousand dollars. What every consumptive's death really means to any wholesome mind is the extinction of a precious life, the blighting of living hopes and ambitions, the closing of a human account written in nights of despair and in broken and anguished hearts. On the other hand, every child's life means an actual sentient existence, expanding to the possibilities of a Lincoln or a Milton or a Florence Nightingale.—*Medical Times*, June, 1912.

Pure Water Supply and Infant Mortality.

Passed Assistant Surgeon Allan J. McLaughlin, U. S. P. H. & M. H. S. publishes a very interesting article on Sewerage Polluted Water Supplies in Relation to Infant Mortality in the current *Public Health Reports*. He invites attention to the excessive prevalence of diarrhoea and enteritis of children in certain cities and towns coincident with a polluted water supply. Physicians and local health officers should co-operate for the investigation of deaths classified as diarrhoea and enteritis and municipal laboratories should be more widely used in the diagnosis of typhoid fever and dysentery. There is a marked decrease in the general death rate of cities independent of the reduction in typhoid fever deaths following the introduction of a safe for a polluted water supply. This is known as the Mills-Reincke phenomenon. Furthermore, where one death from typhoid fever has been avoided by the use of better water, a certain number of deaths from other sources have been avoided. This is known as Hazen's theorem. It is certain that, in addition to a lessened number of deaths from typhoid fever, the substitution of a safe for a polluted water supply results in the saving of many lives from diseases which are not reported as typhoid fever.—*Medical times*, June, 1912.

Insanity.

The annual report of the New York State Board of Alienists submitted to the Legislature in February of this year says that there were 31,051 insane in the State Hospitals, and their capacity is exceeded by 3,043. This does not include the host of "feeble minded, imbeciles and idiots," nor does this latter include another host who are on the border line. Of the out and out lunatics 5,473 new patients were admitted during the year and 1,383 who had been discharged as cured were re-admitted.—The *Homœopathic Recorder*, July 15, 1912.

What can be the cause of this large number of insane people? The present social system of America and of Europe is solely responsible for this huge mass of demented people. Disappointed love, unsuccessful career either in trade, commerce or in university life, &c. are the most potent causes of mental aberration which culminate into insanity or uselessness of one's life. It is high time for Europe to take lesson from the East. However they may decry the social system of the East, it is infinitely superior to many now existing on the face of the Earth. We would be committing suicide, if we thoughtlessly imitate the Western idea. The experience of thousands of years has given rise to a social system, which, if abandoned, will be fatal to us [Ed.]

A Metal Useful for Instruments.

According to *Presse médicale* for July 3, 1912, Péraire has presented to the Société des chirurgiens de France several surgical instruments he had made of tantalum, a rare metal and one difficult to isolate, possessed of greater elasticity than steel and harder than platinum, than which, moreover, it costs less. Tantalum may be subjected without injury to all forms of sterilization, and is not attacked by the usual acids, or salts, even those of mercury. The name is derived obviously from Tantalus, according to some authorities because it is so difficult to isolate, others contending that the reference is to the unquenched thirst of that hero, for the metal remains unaffected by all liquids save hydrofluoric acid.—*New York Medical Journal*, July 20, 1912.

CLINICAL RECORD.

VACCINE THERAPY.

By H. W. NOWELL, D.M.

Case I.—Catherine D., age 5 years, was brought to the outpatient department of the M. H. H. Jan. 28, 1911.

Family history, negative. Past history, frequent attacks of what was first diagnosed as conjunctivitis, later tuberculosis of the conjunctiva. The mother of the child was told that probably the case was incurable, and palliative measures to hold inflammation in check was all that could be done,—certainly not a very encouraging outlook for mother and child.

Present history:—Lower lids of both eyes somewhat thickened, upon everting the lids they were found to be badly inflamed and partly covered with grayish-red granulations. Upon careful inspection an ulcer was found, located in the tarsal conjunctiva of the left lid with a sort of pannus extending partly over the cornea.

Von pirquet test proved to be positive.

Tuberculin was the only remedy considered. This was prepared at the pathological department of the M. H. H., by a method widely different from the tuberculin ordinarily used by others,—special care being taken in running up the dilutions.

Treatment began with one ten-thousandth of a milligram.

February 4, 1911, this was repeated, with gradual increasing doses, once a week, until four ten-thousandths of a milligram was being given. This was continued once a week until September 1. Since that time the child has received treatment once in two weeks.

The eyes began to show improvement from the beginning of treatment. Records have been carefully kept of this case. March 18, much improved, April 22, mother says child is very much improved. August 19, from all external appearance child is perfectly well, eyes show nothing of importance; on inspection, the lower left lid near the inner margin slightly puckered. Occasional treatment will be given for several months.

This is one of four cases with similar results.

Case 11.—Miss D., aged 19, came to the out-patient department for treatment July 29, 1911.

Family history:—Father died from tuberculosis, one aunt has tuberculosis at present time; mother, brother and sister in good health.

Past history:—Discharge from left ear for several months, slightly deaf in left ear since three years of age. Sixteen years ago operated upon for tuberculosis of the bowels.

Present history:—General malaise, losing flesh, weight 97 lbs., constant discharge from the left ear. Culture from ear shows numerous tubercle bacilli. Von. Pirquet positive.

Treatment, July 29. Tuberculin, one-tenth thousandth of a milligram. This was repeated once a week, gradually increasing to five ten-thousandths of a milligram. After several treatments an abscess formed in this ear, breaking and discharging freely for nearly two weeks. The patient is still receiving treatment. The present condition of patient good, absolutely no discharge. She says her health was never so good as at the present time. Weight 112 lbs.

Case III.—Miss E., aged 32, came in the out-patient department April 26, 1911.

Family history, negative,

Past history:—Always troubled with constipation, constant inflammation of mucous membrane at margin of teeth, with frequent so-called gum boils, discharging pus. A well-marked case of phorrrhea of ten years' duration.

Present history:—Membranes of mouth badly inflamed, pus discharging about teeth of lower jaw, teeth loose, headache, general condition poor. (In going over her diet list I found meat to be the principal food).

Treatment:—Culture was made and showed numerous pneumococci and streptococci. An autogenous vaccine was prepared, and every third day she received treatment, alternating strepto and pneumo, starting with 10M, increasing to 25M. The meat diet was cut down one third, the intake of water increased. This case has shown gradual improvement from the start and was discharged as cured October 25, 1911.

Case IV.—Mr. H., aged 35 came to the out-patient department for treatment August 5, 1911. Family history:—negative. past history:—negative.

Present history:—Had an attack of gonorrhea five months ago. Recovered from acute condition. Later a slight swelling of scrotum, followed by pain and soreness, the trouble apparently being in the left testicle. This persisted for a long time.

Treatment:—Gonococcus vaccine every third or fourth day, 45M each time. This patient has shown gradual improvement from the beginning of treatment. At the present time there is no swelling or soreness of testicle, but the patient is having pains and some stiffness of joints. This, too, is apparently responding to vaccine treatment, which will be kept up for a time.—*The North American Journal of Homœopathy*, July, 1912.

Gleanings from Contemporary Literature.

ON THE CAUSATION OF PARENCHYMATOUS NEPHRITIS.

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Although the etiology of acute nephritis is perhaps better understood than that of chronic nephritis, it cannot be said that very much is definitely known as to the actual causation of any variety of inflammation of the kidney. Owing to the association of acute nephritis with many of the infectious and febrile disorders, especially scarlatina, and its comparative rarity apart from these affections, the disease is considered with reason to be due to micro-organisms concerned in the production of the original fever or to their toxins.

In certain cases of nephritis occurring in infectious disorders, the specific micro-organisms have been demonstrated in the kidney or in the urine or in both. For instance, typhoid bacilli have been found in nephritis after typhoid fever, pneumococci in nephritis following pneumonia, etc. This does not necessarily prove the causation of the nephritis in these cases; but, on the other hand, acute inflammations of the kidney have been induced by Pernici and Scagliosi by the injection into the blood of certain micro-organisms, such as the bacillus of anthrax, the *Staphylococcus pyogenes aureus*, etc. It was found also that the toxins of these organisms when injected were productive of renal change, but were less harmful than the organisms themselves. Acute nephritis has been induced by the injection of the diphtheria toxin by Roux and Yersin, Spronk and others.

Beyond the association of acute nephritis with the acute fevers, very little is known regarding the causation. The disease has been attributed to the influence of cold, to pregnancy, to the ingestion of deleterious articles of diet, to drugs, to toxins elaborated in the body as the result of abnormal metabolism, and to many other things.

With regard to the causation of chronic nephritis our knowledge is even more vague. The relation of chronic nephritis to a previous acute nephritis is, I believe, far from being understood. And in the absence of more precise knowledge we include in the etiology of chronic nephritis such factors as chronic alcoholism, the continued action of damp and cold, various constitutional diseases leading to anaemia and cachexia, syphilis, and so on—factors which from observations we have learnt to associate with the appearance of the disease. But how these various circumstances operate we are still ignorant.

With the idea of obtaining some further insight into the etiology of renal inflammations, I have recently, in conjunction with experimental work, been engaged in the analysis of 100 cases of nephritis occurring in the wards of the General Infirmary at Leeds during the years 1900,

1901, 1902, 1908, and 1909. Save for the exclusion of cases of definitely interstitial nephritis or primary sclerotic kidney occurring beyond the middle period of life, there has been no selection in the series analysed.

Out of the total of 100 cases, there were 80 cases of undoubted chronic disease of the kidneys. Of the remaining 20, some were unquestionably examples of primary acute disease, whilst the others did not present a sufficiently clear combination of clinical facts to warrant a definite diagnosis. For convenience, both in description and deduction, I propose to consider first the chronic cases.

Before passing on to a consideration of the factors probably concerned in the production of chronic nephritis, it is necessary to mention briefly the different types of disease which are met with. Some cases exhibit marked albuminuria, with perhaps hæmaturia, scanty urine, dropsy, and anaemia, but no very pronounced toxic symptoms and no retinal changes as a rule. This clinical picture is associated with a distinct type of morbid kidney. The organ is large and pale, differentiation is good, and the capsule strips easily. Microscopically there is a widespread fatty degeneration of the tubules, and to a lesser extent of the glomeruli and the stroma, with also some amyloid change. Indications of interstitial inflammation may be slight, and are probably always present. This type of kidney is known as the "large white kidney."

Another type is that occurring in pale, thin, weakly-looking individuals. There is little or no dropsy, definite but less marked albuminuria, a normal or even an increased quantity of urine, pronounced toxic symptoms, and usually, retinal changes. In this form the cardio-vascular changes are much more evident than in the preceding. The appearance of the kidney from a case of this kind is equally characteristic. The organ is small and contracted, differentiation is poor, the capsule strips with more or less difficulty, and the surface of the kidney is "pimply." Microscopically there is a great increase in the interstitial tissue, together with degenerative changes in the tubules and the glomeruli. This kidney has been termed the "small white" indurated kidney.

Clinically and pathologically both these types are definite enough when they occur, and present no difficulty in diagnosis. But by far the greater proportion of cases present features common to both varieties, and cannot strictly be classified as either. When we examine the kidneys of such we find a great variety of appearances. There are variations in size, in colour, in the ease with which the capsule can be stripped, and the character of the surface of the kidney. And microscopically these variations can be demonstrated to be due to differences in degree of the pathological changes in the individual tissues affected.

Much confusion is caused by the introduction into clinical medicine of such terms as "large white kidney," "small white kidney," "mixed nephritis," etc. It would lead to clearer conceptions if cases were recognized as cases of chronic parenchymatous nephritis, with little, some, or much induration, bearing in mind that the quantity of urine secreted and the

intensity of the toxic symptoms tend to vary proportionately with the degree of induration, whilst the amount of oedema and degree of albuminuria usually vary inversely with the same factor.

Most authorities hold that some interstitial change occurs in the kidney in all cases of chronic parenchymatous nephritis, and that the degree of induration is largely a matter of time. That is to say, the longer a patient lives with chronic parenchymatous nephritis, even though at first the symptoms suggest that there is very little fibrosis of the kidney, the more does the clinical picture tend to approximate to the type which we have learnt to associate with much induration of that organ.

It is not my present object to discuss the question whether or not the same factor is responsible for the development of both the tubal disease and the interstitial fibrosis. I have therefore made no attempt to classify the cases according to type, but have considered them all, for my present purpose, simply as cases of chronic parenchymatous nephritis.

*Chronic Nephritis May Exist Without Symptoms. **

Undoubtedly we must admit that chronic parenchymatous disease of kidney may exist for some length of time without giving rise to any symptoms of illness, its presence being therefore unsuspected. And when symptoms do appear we are often surprised by the degree of disease which we find to exist. A striking example is as follows :

Richard M., aged 33, a weaver, stated that he had always been strong and well up to two months before admission to hospital. Then he began to suffer from headache and morning vomiting. There was never any oedema. He died four weeks after admission, and at the autopsy advanced parenchymatous disease of the kidney, with extreme induration, was found. Both kidneys together only weighed 5 oz. This morbid change must have been going on for a considerable time, probably for years, but with an entire absence of symptoms.

Cases such as this—and I believe they are not very uncommon—can only be explained on the hypothesis that we begin life with a much larger amount of renal substance than we require for ordinary purposes, and that it is only under extraordinary circumstances that the surplus or reserve amount is called into use. Such extraordinary circumstances apparently did not occur in this man's life, and the slow inflammatory process went on unrecognized until the residue of kidney parenchyma was inadequate for even the small claims made upon it in his ordinary existence.

In twelve other cases of the series a diagnosis of acute disease was made on the development of symptoms, but on *post-mortem* examination chronic disease was found to exist—in some no doubt of several years' duration. In these no affection of the kidneys was suspected before the terminal illness.

How Symptoms may manifest Themselves.

The onset of symptoms may be acute or gradual. In the former case the clinical picture is that of an acute nephritis with much oedema,

scanty urine containing much albumen and perhaps blood, together with some toxic, symptoms. In these instances a diagnosis of acute nephritis is usually made. Virtually the condition is an acute nephritis occurring in an organ already diseased, but it differs from a primary acute nephritis, not so much in the acute stage as in its course afterwards. In primary acute nephritis, unless death occurs, the blood disappears from the urine, the albumen entirely or almost entirely disappears, the dropsy subsides, and the toxic symptoms clear up after a variable but comparatively short period of time. But in the acute nephritis associated with the presence of chronic renal disease the improvement is slower and more unsatisfactory. The oedema persists, or varies in degree from time to time, or may disappear altogether only to reappear again. The blood disappears from the urine more or less quickly as a rule under the influence of rest and treatment, but the albumen, although it usually diminishes in amount, nevertheless persists in appreciable quantity. These are the cases where a diagnosis of "acute nephritis becoming chronic" is made, a sequence which I am of opinion seldom occurs.

In the series of 80 cases no fewer than 12 were diagnosed from the character of the onset as acute nephritis, but were proved at the *post-mortem* examination to be cases of chronic nephritis of some duration. And in many others in which a similar diagnosis was made the clinical course after the acute attack suggested very strongly the same state of affairs, although *post-mortem* evidence was wanting. An illustrative case is as follows :

Henry K., a miner, aged 34, stated that he had never been ill in his life up to the onset of the present symptoms. He commenced two months before admission to hospital with aching pains in the legs. A week later his body and legs began to swell, the urine was much diminished in amount, and contained blood and albumen. A diagnosis of acute nephritis was made, but whilst the blood disappeared from the urine the albumen persisted, and likewise the oedema. Death from uraemia occurred three months after the onset, and at the autopsy an enlarged kidney, with advanced parenchymatous change and a little induration (typical large white kidney), was found.

In other cases initial symptoms developed insidiously. These are usually of the nature of mild uraemic symptoms, such as headache, dimness of vision, nausea, shortness of breath. Or there may be a slow development of oedema, with or without uraemic symptoms. The nature of the onset has, as will be discussed later, some bearing on the prognosis.

Age Incidence.

Out of 30 cases, 4 were under the age of 10, being respectively 1, 3, 3, and 9 years old ; 14 were between the ages of 10 and 20, 33 between 20 and 30, 19 between 30 and 40, 5 between 40 and 50, and 5 beyond the age of 50 years. From this it would appear that the period of life at which the onset of renal symptoms in chronic parenchymatous nephritis is commonest is between the ages of 20 and 30.

*Relation of Infectious Fevers to Chronic Nephritis Developing
After an Interval.*

Only 6 of the cases in my series could refer to a past attack of scarlatina, and of these 2 only had any renal complication at the time. Twenty cases gave a history of some other infectious disease, or of some septic process. Five had had typhoid fever, 5 influenza, and 5 pneumonia. Others had a history of diphtheria, measles, quinsy, or "blood poisoning." Not one of these 20 cases had renal symptoms at the time of the acute illness.

A proportion of 6 cases of scarlatina out of a total of 80 is surprisingly small. And this, too, in persons suffering from a disorder of which scarlatina is accounted an important etiological factor is even more remarkable. Again, a proportion of 20 cases with a history of other infectious and septic disorders, out of a total of 74, is not more than one would expect in healthy members of the community.

Although the number of cases dealt with is small, the evidence they furnish supports the view which I hold strongly, namely, that acute diseases have very little, if anything, to do with the production of chronic renal disease developing after a reasonable interval. In chronic parenchymatous nephritis the change in the kidneys is progressive, and must therefore be due to an agent operating continuously or intermittently over a period of time. There is in all the organs of the body a tendency to the repair of diseased tissues when the cause of that disease has been removed, and there is no reason to consider the kidney an exception to this rule. Therefore, I believe that inflammation of the kidney occurring as a complication of acute illness tends to recovery when the cause of that acute illness no longer exists. True, there may be some loss of kidney substance, owing to severe injury, and the functional capacity of the organ thereby lessened, but the kidney now is not the seat of a nephritis. Possibly an organ such as this more prone to inflammation in the presence of a cause potent to reduce it.

Nothnägel, in his *System of Medicine*, states that it is not uncommon at an autopsy to find kidneys of normal or increased size, in which the remains of former inflammatory change can be detected by the microscope, and where there were no clinical manifestations of renal disease during life, even no albuminuria.

Lead as a Factor in the Production of Renal Disease.

In only three of my cases was lead, a possible etiological factor. All were painters by occupation, and all were accustomed to mix their own paint. In two of them there was marked vascular thickening, and the symptoms were those of parenchymatous nephritis with much induration. The third was a doubtful case, as the man had not been in contact with lead for many years, and here there was very little arterio-sclerosis. It is well recognized, however, that chronic lead intoxication is a potent factor in the production of the indurated kidney. This is proved by

reference to the records of any large hospital, and moreover, the lesion had been produced experimentally by Chareot, Prior, and others.

Alcohol.

I have no evidence to bring forward to indicate that alcohol is ever a cause of chronic parenchymatous nephritis. The cause of primary indurative nephritis does not come within the scope of my remarks and it is with this form of disease that over-indulgence in alcohol is chiefly associated. Sixteen of my cases gave a history of alcoholism in excess, but there were other factors which made it impossible to estimate the share, if any, that this had in the causation of the disease. In three instances, however, acute symptoms developed apparently as a result of a "drinking bout." In two of the cases a diagnosis of acute nephritis following acute alcoholism was made; a diagnosis which was corrected later to one of "acute nephritis," developing in the course of a chronic nephritis. In the third instance, the man was known to be the subject of nephritis, and the true relation of the alcoholism to the acute onset of symptoms was appreciated.

The only definite effect that alcohol produced in the cases reviewed appeared to be the determination of symptoms in an already existing latent chronic nephritis.

Fevers and Sepsis.

In seven cases symptoms appeared apparently as a result of some fever or septic process. This is not surprising, for if we accept the infectious fevers, as a course of acute nephritis, it is only to be expected that they should be potent to cause an acute exacerbation in the course of chronic disease.

The effect on the kidney of a long-continued chronic septic affection is not clear. In four cases symptoms of renal disease developed in the course of a chronic affection of the lungs.

Brief summaries of the important facts in these are as follows:

Ada D., aged 9, had suffered from a chronic cough for some years, but there was no history of any acute illness at any time. A week before admission to hospital oedema of the face and legs came on gradually. The urine was diminished in amount, and contained a moderate amount of albumen, with cellular and granular casts. An interesting fact also was that streptococci were found in the urine. Examination of the chest revealed fibrosis of the lung with bronchiectasis at the left base, and displacement of the heart to the left side. Whilst in hospital there were no indications of renal disease beyond the oedema and the urinary findings. The dropsy disappeared, and she was discharged at the end of three weeks. The urine still contained albumen in quantity, and a diagnosis of chronic parenchymatous nephritis was made.

Sam. R., aged 38, had suffered from cough for five years. No other history of illness. One morning he noticed swelling of the ankles. This gradually increased, and later there was general anasarca with ascites. The urine contained much albumen and a variety of casts. Death oc-

curred three months after the onset, and at the *post-mortem* examination fibrosis of the lung with marked bronchiectasis (tuberculous in origin) was found. The kidneys were large and pale, and showed extensive chronic tubal and slight interstitial change. This was not a case of general lardaceous disease, the other organs of the body being healthy.

It is important to note on this case that with the exception of the cough the man felt perfectly well until the onset of the final illness. The development of renal symptoms without any obvious determining cause had, I think, some bearing on the unfavourable course which ensued. This point, however, will be referred to later.

Eather M., aged 31, had never been very strong, having suffered from bronchitis with much sputum for many years. There was never any clinical evidence of phthisis. She had three children. Her first confinement was uneventful, but after the second and third she suffered for a few weeks from swelling of the feet. The state of the urine was not recorded. After the third confinement she enjoyed her usual health for eighteen months, and then the oedema of the legs again slowly developed, and lasted until her death a year later. When under observation in hospital during the last few weeks, the urine was diminished in quantity and contained much albumen and many casts, but no blood. No *post-mortem* examination was made in this case. Note here that what were presumably renal symptoms were twice associated with labour, and these disappeared after a short interval. The symptoms of the final illness were not associated with any definite cause and never disappeared.

Doris W., aged 3, had pneumonia when 2 years old, and again six months later. She was never quite well afterwards. Two months after the second attack of pneumonia she began to be troubled with cough, and a little later, oedema of the face and legs appeared. She died with symptoms of uraemia. The kidneys when examined were large and pale, and showed marked chronic tubal and a lesser degree of interstitial change. In addition there was a small abscess in the left lung.

Senator, basing his opinion on a number of cases specially investigated with regard to this point, believes that, in Berlin at least, of all chronic diseases, tuberculosis must be held to be the most common cause of chronic tubal nephritis not necessarily amyloid in character. I have made clinical and pathological observations on a large number of cases of pulmonary tuberculosis, but have not met with associated chronic nephritis sufficiently often to support this view. Still, a chronic septic process in the lung must not be lost sight of as a possible cause of progressive renal change.

Another possible source of infection is the throat. Several cases gave a history of uniform good health with the exception of frequently recurring "sore throats." The frequent association of acute nephritis with scarlatina and diphtheria is suggestive of a milder anginoid affection being a possible cause of the chronic disease. And the fact that diphtheria organisms may remain in the fauces for a considerable time and

give no indication of their presence renders the view not unlikely that absorption of products from other organisms in the same situation may occur without any indication of infection.

Cold and Damp.

Sudden and severe chilling of the body has long been considered to be a cause of acute nephritis. In my series there were six cases in which symptoms of acute nephritis developed apparently as a direct effect of a severe chill. In many more the onset was attributed to cold, but in these the association was not so convincing.

Details of three out of the six cases are as follows :

Alexander S., aged 29, a miner, came under observation in 1909 with marked dropsy of the face, body, and legs. The urine was scanty and contained a large quantity of albumen and some blood. The onset had been rapid, and followed a severe chill, due to getting wet through. This case might have been diagnosed as one of primary acute nephritis, due to cold, had it not been that the man had been under observation in 1905 with an exactly similar condition. When discharged from hospital the first time the urine still contained some albumen, but the patient remained in perfectly good health until his second attack. When he left the hospital the second time the urine was not clear of albumen, but there were no symptoms.

Samuel S., aged 18, a bricklayer, gave a history of typhoid fever when 16. He was apparently perfectly well after this illness for two years, when he got wet through and caught a chill. The following day he was seized with severe and persistent vomiting. His legs began to swell, and the urine became scanty and dark in colour. When admitted to hospital there was marked oedema, and the urine contained a large amount both of albumen and blood. After a few weeks the blood had entirely disappeared, but the albumen persisted and was present in fair quantity on his discharge.

Alfred B., aged 60, a man with a strong alcoholic history, had enjoyed uniformly good health up to a month before his admission to hospital. Then he caught a severe chill during cold weather. Almost immediately the legs began to swell and later the body. The quantity of urine was much diminished, and contained much albumen and blood. The man died with uræmic symptoms, and at the autopsy advanced parenchymatous disease of kidney, with much induration, was found.

In the last quoted case it would have been impossible to have made a correct diagnosis from clinical data. To all appearances the condition was one of primary acute nephritis due to cold, and the true state of affairs was only revealed after death.

As already mentioned in the first case, the true diagnosis of chronic parenchymatous nephritis with an acute manifestation could only be made with the help of the previous medical history, and such assistance is not always forthcoming.

The other three cases were very similar to the foregoing, and therefore details have not been given.

In my investigations I have not been able to find one single convincing instance of primary acute nephritis arising from cold. Most of the supposed cases occurred in adults, in whom I believe the primary acute disease rarely occurs. When acute symptoms have arisen apparently as a result of cold, I am inclined to regard the cold merely as a factor determining the onset of symptoms in an already existing chronic disease.

The effect of damp surroundings, frequent wettings, and insanitation, frequently in evidence in the etiology of nephritis, is probably one which merely contributes to the development of the disease by depressing the general health and resisting power of the individual, and thereby favouring the operation of the true cause.

Excessive Muscular Work.

The following case is of interest :

John R., aged 27, had never suffered from any definite illness, but was never very strong. He was employed as a tram conductor, and had never done any heavy manual work. Whilst changing his house he assisted in the removal of heavy articles of furniture, working very hard for half a day. The next day he did not feel very well, and could not go to work. On the following day his face and legs began to swell, and the urine contained albumen and blood. The oedema and albuminuria disappeared within a week under treatment, but the albumen persisted, though in lesser amount. Examination of the eyes revealed albuminuric retinitis.

Apparently this was a case of chronic parenchymatous nephritis running a latent course, in which symptoms were determined by unusual and severe muscular exertion. This is not surprising when we remember that albumen with casts is not uncommonly met with in the urine of healthy athletes after hard muscular exertion such as foot-ball, rowing, running, and the like. Here it would appear that the functional power of the kidney is taxed to the uttermost for a short time. And that the functional limit of diseased kidney should be the more easily reached is a fact which needs no pressing.

In the same way can be explained those cases in which symptoms arise as the result of labour. In 5 of my cases the onset of symptoms was definitely associated with delivery. In one instance, which has been recorded in the paragraph dealing with fever and sepsis, the woman had symptoms of nephritis in two successive deliveries with good health between, and also afterwards for a period of months. Symptoms appearing a third time caused her death, and the diagnosis of chronic disease was confirmed by *post-mortem* examination.

It is clear, from the facts set forth, that the factors associated with the development of clinical signs and symptoms of renal disease cannot be held to be the cause of that disease. With the exception of lead, which usually gives rise to the indurative form of nephritis and long-

continued septic absorption in chronic disease—the effect of which in the kidney is not precisely determined—I am strongly of opinion that none of the factors enumerated above do more than act as contributing causes of nephritis, or determine the development of symptoms when the kidney is diseased. I would also say that symptoms of nephritis occurring in an adult, no matter whether the clinical manifestations suggest an acute or chronic process, indicate in the vast majority of instances a chronic change in the kidney. Of the actual cause of this chronic change we know practically nothing. There are many cases of chronic Bright's disease in which there is no history of previous illness, and in which there is nothing to criticize in the occupation, habits, or home surroundings and where we have not the slightest clue to the causation.

• *Relation of the Character of the Onset to the Prognosis.*

I have spoken above chiefly of cases in which the onset of symptoms is associated with some definite cause. But there is a great number of instances in which symptoms appear apparently spontaneously and without reason. This was the mode of onset in 37 of my cases. In most of these the development of clinical manifestations was not acute but gradual, usually the slow appearance of oedema. And where indications of renal disease have developed in this way, the after progress has been more unsatisfactory than in those in which a definite factor was responsible for the onset.

A reasonable explanation of this would be that the disease is progressing slowly, but that up to a certain point the kidney is able to perform its function under the ordinary circumstances of life, and no symptoms arise. But when that point is reached, the kidney is inadequate to meet even moderate claims made upon it, and symptoms appear. Rest in bed with appropriate treatment will relieve the kidney of a proportion of work, and so ameliorate or remove symptoms. Any return to activity, however, brings back all the conditions that existed before, with a return of the signs of renal inadequacy. If, however, the onset of symptoms is determined by some unusual circumstance, this being removed, the effect of treatment is more permanent.

As a general rule, it may be said that when symptoms of chronic renal disease owe their appearance to some definite cause, the prognosis is better than when the symptoms arise insidiously and apparently spontaneously.

I know of no way of diagnosing primary acute nephritis with certainty during the acute stage. The presence in the urine of a marked quantity of nucleo-albumen is held to denote an active destruction of renal epithelium, but this occurs in other conditions besides primary acute nephritis. The association of acute renal symptoms with an acute fever would reasonably lead one to suspect a primary acute nephritis, if the individual had previously had no indications of renal trouble. That the diagnosis can never be certain has been shown already. One other ex-

ample, however, will not be out of place here, and will illustrate the difficulty :

A woman, aged 32, had a severe attack of influenza, and during her convalescence suddenly developed extensive dropsy with albuminuria and haematuria. Her home surroundings were satisfactory and her previous health had been uniformly good. When she came under observation she had marked oedema and distinct urinary changes, but no toxic symptoms of any moment. In little over a week the oedema and the haematuria had disappeared. The heart, however, showed some enlargement, and the second aortic sound was distinctly accentuated. The albumen did not disappear, but was present in fair amount when she left the hospital four weeks later. The case was diagnosed at the time as one of primary acute nephritis becoming chronic, but I have no doubt at all that it was one of chronic nephritis, with an acute manifestation initiated by the attack of influenza.

If we consider the cases which exhibit renal signs and symptoms occurring in association with or immediately following some acute fever, and which for this reason may be suspected of being cases of acute nephritis, we cannot fail to be impressed by the fact that, although albumen may be present in large amount in the urine, and may be accompanied by blood and a variety of renal casts, yet in the great majority of instances all these abnormal constituents disappear, and the urine becomes normal in a comparatively short time (a few weeks) under the influence of rest and treatment.

I would not go so far as to suggest that all cases of acute nephritis which do not die recover absolutely, for there must be cases in which the kidneys are so extensively damaged in the acute inflammation as to be beyond all hope of repair, but I am firmly of opinion that in the very great majority of cases complete recovery is the rule.

In analysing my series of cases, I have been inclined to consider those in which albumen and casts disappeared from the urine permanently after a comparatively short time, with cessation of symptoms as probably genuine examples of acute nephritis. On this assumption, out of the series of 100 cases, there were 18 of acute inflammation of the kidneys. Of these one died, and the diagnosis was confirmed at the autopsy. The remaining 17 apparently recovered completely.

Two other cases occurred in association with infectious fevers, and presented clinically all the features of acute nephritis. In the absence of any evidence of previous disease of the kidney these were also regarded as cases of acute nephritis. In both, the urinary changes were very marked, and the symptoms were very severe. In both, also, although recovery was apparently complete, there was a slight persisting albuminuria. These cases are as follows :

Annie J., aged 21, had worked in a cloth mill for four years, the work being heavy and the hours long. She had had whooping cough and

measles as an infant, but no other illness. She began to be anaemic some years before she came under observation in 1909. She then stated that she had had "influenza" a fortnight previously. This was followed in a few days by marked diminution in the quantity of urine passed, together with dropsy of the face and limbs. When admitted to hospital the urine contained much blood and albumen, with epithelial and granular casts. She was discharged three weeks later, when the oedema had disappeared, the urine was normal, with the exception of a faint trace of albumen, and she felt perfectly well.

Rebecca P., aged 8 years, was admitted to hospital in 1909 with pronounced oedema, albuminuria, and haematuria. She had never had any serious illness up to four weeks before admission. Then she suffered from a bad sore throat. Three weeks later oedema of the face and ankles appeared, with frequent vomiting. She was in the hospital three weeks, at the end of which time she was discharged, feeling quite well. The oedema had disappeared, but there was still a trace of albumen in the urine. This slight albuminuria was present two months later.

From what has been stated previously, the fact that there were no indications of renal trouble in these cases prior to the onset of definite symptoms does not prove that the kidneys were healthy, for it has been shown that disease of the kidneys may exist for some length of time without any symptoms whatever. The significance of this slight persisting albuminuria therefore is not clear. It may indicate a previous slight affection of the kidneys, or it may mean a continuance of the pathological progress initiated at the acute attack. But in either case I am inclined to regard the presence of albumen in the urine as an indication of some persisting irritation of renal cells.

Age Incidence in Acute Nephritis.

Of the 20 cases of acute nephritis 11 were under the age of 15 years, the youngest being 9 weeks old; 14 were under 20 years, and 18 under 30 years. The oldest case was that of a man aged 37 years. This bears out the commonly accepted view that acute nephritis is a disease of childhood and adolescence.

Causation.

Previous History.	Exciting Cause.	Number of Cases.
No history of illness ...	Scarlatina	3
No history of illness ...	Other infectious fevers	8
History of previous fever. (No nephritis.)	Influenza	2
History of previous fever. (No nephritis.)	Sore throat	3
History of previous fever. (No nephritis.)	Cold and exposure	1
No previous illness (child of 9 weeks.)	Acute intussusception	1
No previous illness ...	.....	2

I am aware that the foregoing table is not very helpful in arriving at a conclusion as to the most frequent causes of acute nephritis. On one point, however, I am convinced, and that is, that the history of previous infectious disease is of very little importance. It is the exciting cause which is the important one.

How many of the population escape measles, whooping-cough, and influenza in the course of their lives? Only a small proportion, and this proportion is not less in those who suffer an attack of acute nephritis. The exciting cause is to be sought for in the exanthems, the catarrhs, and, to a less degree, in the septic affections. And as these become more effectually controlled, so will acute nephritis become a rarer affection.

Conclusions.

To sum up, I would put forward the following proportions :

1. Acute nephritis is not a very common disorder.
 2. Acute nephritis is usually due to the direct effect of some infectious fever, catarrh, or septic process.
 3. The great majority of cases recover completely, therefore the prognosis is good.
 4. The diagnosis of acute nephritis (primary) can seldom be made with certainty during the acute attack, and therefore a prognosis cannot safely be given until after an interval of a few weeks at least.—The *British Medical Journal*, April 13, 1912.
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Report on Sanitation in Bengal for the year 1911, being the 44th Annual Report of the Sanitary Commissioner by Major W. Wesley Clemesha, M.D., D.P.H., I.M.S., and the 21st Annual Report of the Sanitary Board.
Annual Statistical Returns and Short Notes on Vaccination in Bengal for year 1911-1912.

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THE HOMŒOPATHIC DIET.

BY BENJ. C. WOODBURY JR., M. D., Portsmouth. N.H.

"She also present me with a paper, in which the different kinds of food, vegetables, seasonings, and odor, which antidoted the effects of homœopathic remedies were enumerated. After cordially shaking hands with the kind old man and his talented and exemplary wife, I bade them good morning. One of the domestics in attendance conducted me down stairs, and handed me into the carriage; and I drove home, passing along a file of coaches, stretching from Hahnemann's door rather further than I could venture to mention and expect to be believed." (From A Sketch of Hahnemann and His wife, by Helen Bukley, North American Jour. of Homœopathy).

The natural query, after reading this most entertaining recital of a professional appointment with Doctor and Madame Hahnemann is, how many of our modern physicians are really following these careful directions known to have been so successful in the practice of this great Master of Healing Art? How many of us are sending our patients away with this carefully prepared billet? How many of us have as many patients to send away? Undoubtedly, as is often the case with the propounder of a new doctrine, few of his followers are enabled to equal him in success. However without doubt much of Hahnemann's great

success came to him as the result of long years of most careful observing of the sick from many standpoints. His exhaustive study of the chronic diseases, mastered only very late in life undoubtedly contributed largely to that success, but most of all should we give careful attention to his care in the direction of his patient's regime. That this great thinker was most mindful of the importance of these subjects there can be no doubt. And as careful study of his writings will reveal, nothing in the way of fresh air, bathing, hydrotheraphy, proper exercise as well as the removal of any possible dietetic errors, was by any chance neglected. Such subjects as these and many others of profit, may be reviewed in the Lesser Writings.

The writer has recently pointed out the necessity of the establishment of carefully directed Chairs of Dietetics in our Homœopathic Medical Schools. (New England Medical Gazette, Nov. 1911). Didactic instruction coupled with properly conducted laboratory experimentation might make possible the carrying out such scientific FOOD PROVINGS, much in the same manner that the drugs of our materia medica were carefully tested upon the healthy, human body. By such methods, not only could we demonstrate a priore not only what dietetic or other hygienic error if any had been committed in each case of sickness, but also should we thus be enabled to apply with greater celerity the proper hygienic and remedial measures. By such methods of study we might establish scientifically the relationship between the disease-complexes of all acute conditions insofar as they are of dietetic origin; and be able to adduce without doubt, palpable and definite evidence of the etiological factors of certain as yet little understood chronic nutritional diseases. In such a department of medical education could be tested all the various food products, first *singly*, somewhat in accordance with the method advised by Hahnemann for experimental drug-testing; then in combination, according to caloric, physiological and nutritional values. Here might also be tested the variously combined mixed, meat, vegetable, cooked or raw food diets. Here might be ascertained

as well the comparative value of combinations of fruit and nuts, vegetables and meat, the food values of cereals, meat, nuts, and fruits. Careful nutritional values having been ascertained, corresponding deductions could be drawn as the correct manner in which such foods should be prescribed. The correspondence between animal and vegetable foods would then be more clearly understood, as well as the relative values of proteids, fats and carbohydrates. Here could be accurately tested the various methods or effects of fasting, moderation in eating or gormandizing. Thus might be ascertained the *positive effects of foods in health*; from which may be deduced their indications in health and disease.

The early followers of Hahnemann were for long said to achieve their remarkable success by their care and attention to dietetics. So rigid were these directions that they were in many instances only with difficulty carried out; therefore the "Homœopathic Diet," as a specific method of procedure fell gradually into more or less disrepute even among its own practitioners. Many of them were not only averse to carrying out these directions themselves, but to imposing them upon their patients. Hence the toleration of many dietetic evils, in the practice of an Art, which should have by its far-reaching grasp of medicine been so searching as to carry this stronghold as well; thus liberating man from the scourges of digestive, nutritional, and other disorders which may lead in their finality to immorality, psychic and mental disorders, organic diseases of various kinds, poverty, crime or premature death. The revolt at this strict regimen, has long since reduced it to the point where with many physicians it seems to be wholly a matter of diet along strictly orthodox lines, among others, total indifference as to what their patients consume, or among still others careful attention to diet analysis according to the lines laid down by Hahnemann. As long ago as 1861, the revolt seems to have been quelled, and Hahnemann and his "Homœopathic Diet" routed from the field. For we find the late Dr. Angel writing as follows in the North

American Journal of Homœopathy: "Ten or twenty years since we should have been considered as wanting in orthodox homœopathic principles had we attempted to treat a patient without prohibiting tea, coffee and spices, pickles, pastry and pork. Few of us now, I ween, would venture to treat a phthisis-pulmomalis, with its faulty excess of albuminous, and deficiency of fatty elements in the blood, under this strictly Hahnemannian regime. Not only do we find it necessary to encourage a generous, stimulating and fatty regimen." "One realizes," he says, "a sensation similar to that felt in moving about among the black-letter relics of past ages in looking back upon the heroic rule adopted by Hahnemann and the earlier homœopaths. Indeed it is curious, as well as amusing, to go back no farther than to the work of Dr. Laurie, published in 1859. We find here prohibited, under soups, among others: turtle, mockturtle, and finally, all rich and all seasoned soups. Of meats, are prohibited, pork, veal, turkey, duck, goose, bacon, liver, tripe, and every kind of fat and salted meat. Of fish, crabs, lobsters, and oysters, and shellfish in general. Under vegetables, among others, cucumbers, celery, greens, cabbage, radishes, horse-radish, asparagus, every kind of pickle and raw vegetable. Pastry of all kinds, boiled or baked, is prohibited. Spices of every description, aromatic artificial sauces, all condiments, mustard and vinegar are prohibited. Cheese is prohibited, and chestnuts, filberts, almonds, walnuts, raisens, and indeed the entire complement of a dessert, except a few non-acid fruits mentioned under aliments allowed. In looking over aliments allowed, we find that poultry and game are rarely administered; salt should be used with moderation, and gruel must be made thin! Unseasoned soup, no turkey, a dessert of bread and cheese, *minus* the cheese! Shade of the great Soyer save us from such dinners! "In conclusion, we must repeat our conviction, that no dietetic code of universal application is possible; that the morbid elementary changes occasioned by the different varieties of disease frequently require a corresponding change in the supply of nutriment; and finally, that the diathesis of

the patient, his idiosyncrasies, and especially his habits and instinctive desires, should always receive prominent consideration." In order that we may have at the outset a clear conception of our subject, let us review Hanemann's original dietetic directions. Organon, Sec. 259. "The minuteness of the dose required in homœopathic practice, make it necessary that every other kind of medicinal influence that might cause a disturbance should be avoided in the *diet and regimen* of patients, in order that the highly rarified dose may not be counteracted, overpowered, or disturbed by extraneous medicinal influences. (130).

Sec. 269. In chronic cases, therefore, it is especially necessary to search carefully for such impediments to the cure, because these diseases are frequently aggravated by obscure noxious influences of that kind, as well as by errors in regimen which being frequently overlooked, exercise a deleterious effect. (Explanatory Note.) (131). "Coffee; Chinese tea, or other herb teas; beer containing medicinal vegetable substances unadapted to the condition of the patient; so-called cordials, prepared from medicinal spices; all kinds of punch; spiced chocolate; scented water and perfumes of various kinds; highly odorous flowers cultivated in the chamber: medicinal tooth-powders or washes; perfumes inclosed in bags or cushions; highly seasoned food or sauces; spiced pastry or ices; raw medicinal herbs in soups; pot-herbs, tender shoots and roots possessing medicinal properties; old cheese and tainted animal food, or the flesh and fat of pigs, ducks, geese, or young veal, and acid food, etc., all of which produce collateral medicinal effects, are carefully to be kept from patients of this kind.

Excesses at table; the excessive use of sugar and salt as well as spiritous liquors; heated rooms; woollen clothes next to the skin (which, in warm weather, is first to be replaced by cotton and then by linen); sedentary habits in close apartments. Passive exercise, such as riding, driving, rocking; protracted suckling of infants; the habit of sleeping in bed too long after dinner; nocturnal occupations; the enervating effects induced by

the perusal of obscene books; objects of anger, grief, and vexation; the passion for gaming; excessive exertion of mind and body; residence in a marshy locality; damp rooms; penurious living, etc. all these conditions and circumstances should be carefully avoided and removed, lest the cure might be impeded or rendered impossible. Some of my disciples appear to impose unnecessary restrictions on their patients by prohibiting a still greater number of quite indifferent things, a course which is not to be sanctioned.

Sec. 261. The proper regimen to be enjoined during the use of medicines in chronic diseases, consists in the removal of all obstacles in the way of recovery, and in the substitution of a wholesome mode of life, such as innocent recreation of the mind, active exercise in the open air in all kinds of weather (daily walks, light manual labor), proper nutritious food and drink unadulterated with medicinal substances.

Sec. 262. In acute diseases, on the contrary (insanity excepted) the fine, unerring inner sense of the active instinct of self-preservation will decide the course to be pursued so clearly, that the physician will only have to advise the friends and attendants to obey the voice of nature by gratifying the patient's ardent desires, without offering and urging him to accept hurtful things.

Sec. 263. The food and drink most commonly craved by patients suffering from acute diseases, is generally of a palliative and soothing kind, and not properly of a medicinal nature, but merely adapted to the gratification of a certain longing. Slight obstacles which moderate gratification might place in the way of recovery, (132) are more than counterbalanced by the power of homœopathic medicine, by the vital force liberated by the medicine, and by the refreshing effect of a gratified desire. In acute diseases the temperature of the chamber, and the quantity of covering should be regulated entirely according to the wishes of the patient; while every kind of mental exertion, and emotional disturbance is to be carefully avoided,

Sec. 266. Substances derived from the animal and vegetable kingdoms, in their crude state possess the strongest medicinal properties. (133). (266.) All crude animal and vegetable substances possess a greater or less amount of medicinal properties, and each, after its own manner is capable of altering the sensorial condition (health) of man. Those plants and animals used as food by civilized nations, are preferable on account of the large amount of nutritious matter contained in them; they also differ from others in this, that these properties are diminished by culinary processes; for instance, by pressing out the hurtful juices (like that of the South American Cassava), by fermentations (like that of rye flour into dough for bread; the preparation of sourkraut and pickles, without vinegar), by smoking, by heat (in boiling, frying, roasting, baking), by which means the medicinal elements are partially destroyed and evaporated. Through the addition of salt or vinegar (in pickling and preparation of sauces and salads), these animal and vegetable substances may lose a part of their medicinal properties, but injurious qualities of another kind are produced."

That the above and other more recently observed injurious food and their derivatives do possess medicinal action, which being misappropriated in the human organism may become the source of both acute and chronic disease (through their morbid effects upon the vital force) there can be no doubt. Aside from the harmful effects of such foods in themselves, we have the added danger from contamination introduced through adjuncts and harmful chemical preservatives. Such food adulteration the Pure Food Law is destined to investigate and if possible obviate. Inasmuch as we are continually enveloped in an atmosphere of injurious medicinal influences, it behoves the true follower of Hahnemann, not only to investigate, but to eradicate them in so far as possible from the diet and regimen of his patient.

Our Repertories (if we will but study them) furnish abundant corroboration of these directions and even by closely following the modalities observed in drug provings we may be able from

this source alone to remove by thorough symptom analysis the noxious influences.

This has not been perfected for the reason that **FOOD PROVINGS** have not up to the present been carefully carried out. How much more readily we might be of true service to our patients if we had determined by carefully conducted experiments, the etiological value of such modalities as for instance, **AGGRAVATIONS**; according to **FOOD AND DRINK**, as recorded in Bönninghausen and other Repertories. These are modalities noted during the proving of single drugs for their pathogenetic effects upon the body in health, but as soon as the drug action has made its impress upon the organism, they then represent the effects of nutritional elements upon the body *pathogenetically disturbed*; hence in many cases their more or less doubtful value, as for instance the morbid cravings of the patient at the period of acute disease crises, may be perfectly sane and safely heeded yet in chronic diseases these self-same cravings may represent abnormal desires which are the direct evidences of functional or organic disorder.

Dietetic observations to be of greatest service should be obtained from *food-products individually proven upon the body in health*; thus would we be able to recognize at their incipency a train of symptoms, and by a timely alteration in the dietetic regimen, aided by our remedy (which can now be more understandingly applied), more speedily restore the patient to health. The patient's own desires, dietetic cravings or disagreements, modalities as to pain, sensitiveness to temperature, position in bed, etc., all have a most important bearing upon the selection of the remedy. Certain phases of this subject have been carefully discussed in an article by Dr. M. W. Turner (*North American Journal of Homœopathy*). Vol. XXIV, Pp. 368-9). (Logical Extensions of the Remedy).

Even though we have not as yet ascertained the positive effects of foods singly or in combination, the modalities of the patient are in a general way a safe guide; for nature is very explicit in her expression of vital derangement, and the careful

observer cannot be led far astray, if he will heed her notes of warning. If on the other hand he goes blindly on, never heeding the indications before him, *the totality of the symptoms*, both subjective and objective, (including those which are reflex or far removed from the affected organ), he must for long be in doubt as to the origin of any individual case in hand. If he sees as does the allopathist but the material or outward expression of disease, that is, its ultimates or results, such as inflammatory lesions, abnormal urinary and blood changes, excessive connective tissue or proliferated cellular growth, without recognizing the *primary alterations in the interior vital force* (which manifest themselves not upon the outer physical organism, but in disturbances in the interior mental, sensorial or psychical equilibrium), he will likewise fail in his efforts to cure. Morbid tissue change is in every case preceded by those finer, more intricate and subtle alterations in the dynamis or vital force; these manifestations of disorder finally routed from their accustomed channels suppressive measures make themselves manifest upon the next lower plane; if psychical or mental, upon the desires, cravings, longings of the sensory sphere; if sensorial, upon the bodily fluids such as the blood, lymph, cerebrospinal, etc.; these latter elements being disordered, the final result is abnormal, degenerative or hyperplastic tissue change. Except the physician recognize these phases of disease, he will not be able to diagnose sickness in its true totality, hence his inability to perform a radical cure. Evil habits in living such as eating, bathing, sleeping, etc., make their impress upon the dynamis, and step by step may undermine the physical or be reflected upward upon the mental and psychical realms, resulting in corresponding disorders, which may result in insanity and other mental diseases. Hahnemann gives a very concise and extended discussion of the origin, and treatment of such delicate and illusive disorders, which should be well understood by the seeker after true remedial therapeutics. Thus it will be evident, as certain modern writers on this subject have emphasized, that the treatment of disease should be approached from the

three-fold planes, *mental, moral and physical*, in order that we may gain in our case, study the true concept of *the patient as an individual*, who is ill.

We must be *constructive psychotherapists, advisory meta-physicians, homœo-theraputists*.

Unless we can constantly hold before our patient's mind's eye, ourselves as examples of right living, right thinking, right practices, we shall fail in our great mission, the healing of humanity! In order to succeed as saviours of men, we must be each one of us, exemplary lives of our teaching on all three planes of our professed practice. Homœopathy is a *grand constructive philosophy*; and he who can comprehend its inner and basic principles, needs no better code of morality, mental perception, or guide to physical health. Without this dynamico-spiritual conception of the Hahnemannian School, the student will find his way beset with pitfalls, and his advance along the path to true knowledge of healing befogged by the screens of of materialistic tradition and empiricism.

The injurious effects of certain obnoxious surroundings in the sick room have nowhere been better set forth, than in an article by Dr. C. Hering in the *Hahnemannian Monthly*, Vol. IX, entitled "Offensive Odors from the Mouth."

The careful homœopathic prescriber knowing as he does the effects, in medicinal doses, of alcohol, wine, brandy, beer, in addition to the organic salts and traces of lead and sulphur which they are sometimes found to contain, as well as preservatives with which they are prepared, classes them under the general head of aggravation from carbohydrates, in addition to their well-known stimulating properties.

Tea, coffee, cocoa, tobacco, all condiments such as pepper, mustard, ginger, nutmeg, red-pepper, etc., are classed under the particular drugs they represent (provings of practically all of which have been recorded), and in a general way may be classed as aggravation from drugging; to be antidoted by the proper remedy.

Such aggravations as from "peas and beans, butter, milk

cheese, (old, strong,) eggs, fish, oysters, pork, veal, sausages, in general as aggr. from PROTEIDS fish (salt, smoked or shell).

Under Aggr. from FATS, are included, pork, oil, pastry, butter, sausages.

Under Aggr. from CARBOHYDRATES, we have bread, black bread, bread and butter, buckwheat, potatoes and all other vegetables such as cabbage, carrots, cucumber, farinaceous food, (and we may well include flatulent food), sweets, honey, hot cakes, onions, asparagus, pears and all fruits, turnips, etc.

Under Aggr. from ACIDS, may be included lemons (citric), vinegar (acetic), apples (malic), grapes, gooseberries, tomatoes, (oxalic acid especially if canned, benzoic or in form of catsup), sour odors, sour kroust, etc.

Under Aggr. from COLD FOOD and DRINK, may be included frozen food, as ice cream, etc.; although much of the harmfulness of this kind of food is due to its rich combination of sweets, proteids and fat.

Again we find that some patients experience intense Aggr. from the odors of food, cooked and cooking, or loathing at the thought or sight of it, even though desired.

Likewise must we reckon with the patient's desires or aversions.

Among AMELIORATIONS from food may be recalled bacon, bread, coffee, cold food, hot food, meat, milk, salt, tea, tobacco, vinegar, water cold or warm, wine.

Salt (Sodium Chloride), so universally used as a condiment should be given special note; likewise many symptoms point to molecular or ionic disturbances in the organic cell-salts which enter so largely into the structure and nutrition of the body. When used in excess either in the ingestion of excessive sweets or other carbohydrate foods, or even animal foods, especially when used in their crude chemical (inorganic form) recourse may need to be had to their administration in attenuated form to restore the cellular equilibrium. Here the salts of sodium, calcium, magnesium, fluorine, potassium and iron may be safely administered in potency in addition to careful selection of such organic

foods (usually fruits and vegetables, either cooked or in some cases uncooked) as contain them in most nutritious and easily assimilable form.

It has for long been recognized and more recently emphasized that salt (sodium chloride) has a most deleterious effect and acts, when in excess, as an intense irritant in kidney disease and ascites, so much so that it is often by many deemed necessary to entirely remove it from the dietary. Our proving of *Natrum Muriaticum* clearly indicates that it will produce dryness of the mouth (without actual dryness), intense thirst, cold sores on the mouth, anal fissures, gastric hyper-acidity and many other similar symptoms. The effects of pepper, ginger, capsicum, the depressing action of nutmeg (*Nux Moschata*), likewise of garlic, onions, asparagus and other irritant vegetables, and all condiments and spices, are well known to all. The sudden diarrhœas of summer due to excessive eating of vegetables, decayed or unripe fruit; likewise the rapidly curative effects of *Coloc.*, *China*, and *Verat Alb.*, in such cases are well known to students of Homœopathy.

One point, however, must not be overlooked; experiment and theorize as carefully as we may, we must not forget that in treating the sick we are treating them as *individuals*, differing each in his own way as to his power of expressing any particular phase of illness by physical symptoms. But after all drug provings have shown us how each remedy in general affects the majority of individuals; likewise food provings may enable us in a large measure to perceive how individual foods will affect the body in health, thus we shall be enabled by the combined method of *drug substitution and dietetic elimination* to effect in the majority of cases more rapid cures.

The above suggestions are by no means complete, but represent simply for the most part the Aggrav. and Amelior. from Food and Drink as found in Bœnninghausen. In addition to the possession of these valuable nuggets which the homœopathic physician already has at his disposal, careful study of the effects of EACH of these FOODS SINGLY, and in combination, in

addition to our carefully recorded medicinal provings, will aid him to trace at once many cases of at first obscure origin, to such a source, and the careful removal of the offending article, with the proper remedial antidote, will result in a more rapid cure. At the same time, having acquired in a general way the effects of the three great classes of food stuffs, he will thus the more quickly divine from the patient's symptoms the source of error, if it were of dietetic origin, and be able the more readily to remove it.

• If one has the desire to make a few personal observations, he will soon be able to determine that trains of symptoms such as biliousness, headache, blurred vision, sticking pains in the stomach or liver region, pains in the loins, back, chest and even of remote localities may be simply reflex from gastric or liver, disturbances. If traceable to overeating, to the stomach; if to the liver, such symptoms will be found to be due to congestion from excessive ingestion of those portions of the dietary commonly dealt with by the liver, such as sweets, starches and fats; or again to excess of nitrogenous products, which are normally broken up into urea or elaborated into bile. Heaviness of the eyes, lack of animal heat, wrinkled parchment-like-skin, corpulency, rheumatic and kindred disorders (in addition to excess of proteid) may be found to be due to temporary indiscretion or habitual over-indulgence in starches and sugars. In a similar way lack of FAT or excess of the same will each produce its characteristic indications, the intake of proteids and carbohydrates at the same time remaining constant.

This cursory review is intended as a simple reminder of the far-reaching scope of knowledge necessary in the intricate process of homœopathic prescribing; a divinely given Art of Healing. Let us one and all see to it that it is *more scientifically, conscientiously and divinely applied*.—The *Medical Advance*, June, 1912.

SAMUEL PEPYS AND THE ROYAL SOCIETY.

There are many references to the early days of the Royal Society in Pepys's *Diary*. Under date January 9th, 1664-65, he records that he saw the Royal Society "bring their new book, wherein is nobly writ their charter and laws and comes to be signed by the Duke as a Fellow and all the Fellows hands are to be entered there and lie as a monument and the King hath put his with the word Founder." The pious founder was fond of a joke at the expense of the Society. On February 1st, 1663-64, Pepys records:

Gresham College he mightily laughed at for spending time only of weighing of ayre and doing nothing else since they sat.

Pepys's struggles with the orthography of the name of the first President, Lord Brouncker, are amusing. He writes it sometimes Bruncker, sometimes Brunkard, sometimes Bruncker; later, when he had doubtless become better acquainted with the noble lord, he learned to spell his name. Pepys was elected a Fellow on February 15th, 1664-65. On that day he records:

With Creed to Gresham College, where I had been by Mr. Povy the last week proposed to be admitted a Member, and was this day admitted by signing a book and being taken by the hand by the President, by Lord Brunkard and some words of admittance said to me. But it is a most acceptable thing to hear their discourse and see their experiments which were this day of the nature of fire and how it goes out in a place where the ayre is not free, and sooner out where the ayre is exhausted which they show by an engine on purpose. After this being done they to the Crowne Taverne behind the change, and there my Lord and most of the company to a Club supper: Sir P. Neale [Sir Paul Neile], Sir R. Murrey [Sir Robert Moray, one of the founders of the Society], Dr. Clarke. Dr. Whistler, Dr. Goddard, and others of most eminent worth. Above all, Mr. Boyle to-day was at the meeting, and above him Mr. Hooke who is the most and promises the least of any man in the world that I ever saw.

In the following month Pepys made a statement to the Society

giving an account of what information he had received from the master of the Jersey ship which had been in company with Major Holmes in the Guinea voyage concerning the pendulum watches. On March 1st, 1664-65 is the entry :

And this day I did pay my admission money, 40s., to the Society. Here was very fine discourses and experiments, but I do lacke philosophy enough to understand them, and so cannot remember them.

On November 14th, 1666, Dr. Croone told him that at the meeting at Gresham College to-night, which it seems they now have every Wednesday again, there was a pretty experiment of the blood of one dogg let out, till he died, into the body of another on one side, while all his own run out on the other side.... The first died upon the place, and the other very well, and likely to do well. This did give occasion to many pretty wishes, as of the blood of a Quaker to be let into an Archbishop, and such like : but, as Dr. Croone says, may if it takes, be of mighty use to man's health, for the amending of bad blood by borrowing from a better body.

On November 16th there is the following entry :

This noon I met with Mr. Hooke, and he tells me the dog which was filled with another dog's blood, at the College the other day is very well, and like to be so as ever, and doubts not its being found of great use to men ; and so do Dr. Whistler, who dined with us at the tavern.

Again, on November 28th

Mr. Carteret and I to Gresham College, where they meet now weekly again, and here they had good discourse how this late experiment of the dog, which is in perfect good health, may be improved for good uses to men.

A year later (November 21st, 1667) we hear of the application of transfusion to man. Pepys said the Fellows discoursed of :

A man that is a little frantic, that hath been a kind of minister, Dr. Wilkins saying he hath read for him in his church, that is poor and a debauched man, that the College (Gresham) have hired for 20s. to have some of the blood of a sheep let into his

body, and it is to be done on Saturday next. They purpose to let in about twelve ounces ; which, they compute, is what will be let in a minute's time by a watch. They differ in the opinion they have of the effects of it ; some think it may have a good effect upon him as a frantic man by cooling his blood, others that it will not have any effect at all. But the man is a healthy man and by this means will be able to give an account, what alteration, if any, he do find in himself, and so may be usefull.

This man, we are told by Mr. Wheatley, the learned editor of the immortal diary, was Arthur Coga, who had studied at Cambridge and was said to be a bachelor of divinity. He "was indigent, and "looked upon as a very freakish and extravagant man." Dr. King, in a letter to the Hon. Robert Boyle, remarks "that Mr. Coga was about thirty-two years of age ; that he spoke Latin well when he was in company which he liked, but that his brain was sometimes a little too warm." The experiment was performed on November 23rd, 1667, by Dr. King at Arundel House, in the presence of many spectators of quality and four or five physicians. Coga wrote a description of his own case in Latin, and when asked why he had not the blood of some other creature instead of that of a sheep transfused into him, answered, "*Sanguis ovis symbolicam quandam facultatem habet cum sanguine Christi, quia Christus et agnus Dei.*" Coga was the first human being in England to be experimented upon ; previous experiments were made by the transfusion of the blood of one dog into another.

On November 30th we hear more of Coga. Pepys went to the election officers on that day, and narrowly escaped an undesired honour. He was—near being chosen of the Council ; but am glad I was not, for I could not have attended, though above all things I could wish it ; and do take it as a mighty respect to have been named there.

After the elections he went to a tavern with several of the learned men, where they had much good discourse.

But here above all I was pleased to see the person who had his blood taken out. He speaks well and did this day give the

Society a relation thereof in Latin saying that he finds himself much better since and as a new man but he is cracked a little in his head though he speaks very reasonable and very well. He had but 20s. for his suffering it and is to have the same again tried upon him ; the first sound man that ever had it tried on him in England and but one that we hear of in France which was a porter hired by the virtuosos.

On March 15th, 1664-65, he records that he went to Gresham College, where, among other good discourse, there was tried the great poyson of Maccassa upon a dogg, but it had no effect all the time we sat there.

We learn from Birch's *History of the Royal Society*, that an experiment "of trying to poison a dog with some of the Macassar powder in which a needle had been dipped was made, but without success." Again, on April 17-19th, 1665 :

We to Gresham College, where we saw some experiment upon a hen, a dogg, and a cat, of the Florence poyson. The first it made for a time drunk, but it come to itself again quickly ; the second it made vomit mightly, but no other hurt. The third I did not stay to see the effect of it, being taken out by Povy.

With reference to this passage, Mr. Wheatley quotes from Birch's *History* :

Sir Robert Moray presented the Society from the King with a phial of Florentine poison sent for by his Majesty from Florence, on purpose to have those experiments related of the efficacy thereof, tried by the Society. The poison had little effect upon the kitten.

We hear more of the poison on May 3rd, 1665, when it is recorded in the *Diary* :

And so out to Gresham College, and saw a cat killed with the Duke of Florence's poyson, and saw it proved that the oyle of tobacco drawn by one of the Society do the same effect, and is judged to be the same thing with the poyson both in colour and smell and effect.

Here, again, we learn something more about this from Birch, who says :

Mr. Daniel Coxe read an account of the effects of tobacco-oil distilled in a retort by one drop of which given at the mouth, he had killed a lusty cat, which being opened, smelled strongly of the oil, and the blood of the heart more strongly than the rest.... One drop of the Florentine *oglio di tobacco* being again given to a dog, it proved stupefying and vomitive, as before.

Pepys did not like parting with money ; we can therefore imagine his feelings when he had to subscribe to building of a house for the Society. On April 2nd, 1668, he says :

With Lord Brouncker to the Royal Society where they were just done, but there I was forced to subscribe to the building of a College and did give forty pounds ; and several others did subscribe some greater and some less sums ; but several I saw hang off : and I doubt it will spoil the Society for it breeds faction and ill-will and becomes burdensome to some that cannot or would not do it.

On the same day he experimented with an instrument to improve the hearing :

Here to my great content I did try the use of the Otacousticon which was only a great glass bottle broke at the bottom, putting the neck to my eare and there I did plainly hear the dashing of the oares of the boats in the Thames to the Arundell Gallery window which without it I could not in the least do and may I believe be improved to a great height which I am mighty glad of.

The apparatus is ridiculed in a contemporary play under the name "*Autocousticon*," which is said to be "a pair of asses ears and large ones."

Pepys was elected president of the Society in 1684, and he held the office for two years. While he speaks of the Fellows as "a set of the finest gentlemen that ever I met withal in my life," he records that on occasion their noble president and others got drunk.—*The British Medical Journal*, July 27, 1912.

EDITOR'S NOTES.

Oxygen in Pneumonia.

The employment of gaseous oxygen by inhalation in the stages of red and grey hepatization will materially aid the patient to pass through that agonizing time when breath is spent without discharging the debt of continuously increasing pathological interest. To any one who has suffered from pneumonia, this will be plain. The clinician will appreciate the untellable relief that his patient experiences when the flow of pure oxygen quiets the spasmodic respirations, supplying enough of the element with a minimum of effort. To give this remedy with good effect, allow the patient to inhale from period to period small quantities of oxygen, and in the intermissions observe pulse, respirations and temperature. Do not over-stimulate. Watch the emunctories. With the employment of oxygen, there is the danger of excessive reaction, and with it, the over-tasking of kidneys, heart, skin or sympathetic system. Nevertheless, the exhibition of oxygen will effect that which nothing else can do—increase the available oxygen, with a reduction of the expense of effort to the patient. Use the stream of gas as it appears after washing through water.—*Medical Times*, June, 1912.

Unilateral Deafness.

An improved method of testing the presence or absence of unilateral deafness is described by E. P. Fowler, New York (*J. A. M. A.*, February 10). He says, "This may be very satisfactorily accomplished by using a piece of ordinary rubber tubing or, better, an otologic auscultation tube, or a stethoscope, one ear-piece being stopp'd up if it is a double instrument. One end of the device should be inserted into the patient's ear, using care to prevent any occlusion of the lumen of the tube or ear. The other end should be held a few inches below and in front of the operator's mouth, and a fine column of air may be blown through the lips into and across the extremity of the apparatus thus adjusted. If a stethoscope is used, blow into its bell. The blowing will produce a loud, confused, roaring sensation in the hearing ear and will prevent this ear from detecting any other sounds. If, while this is operating, a third person talks or shouts into the ear under examination, the patient will hear the shouting only if the deaf ear possesses some power of sound perception. This simple device will cut off all

perception of sound by air or by bone conduction. This may be proved by using a double stethoscope in normal ears and blowing into the bell." Vibrations from the lower tuning-forks will often be felt by the patient, who must be cautioned against mistaking this for sound sensation.—*Medical Times*, June, 1912.

New Theory of the Coagulation of the Blood.

The coagulation phenomena of the blood concern the internist and the surgeon in a variety of practical ways. The stoppage of hemorrhage, the production of intravascular clots leading to thrombosis, the non-coagulability of the blood in certain diseases, with its attendant consequences, are a few familiar instances of the problems which daily arise for consideration in this connection. Yet physiologists have been unable to agree on any approximately adequate solution.

It may be accepted as probable that the clotting of shed blood is due to a reaction between a protein, fibrinogen, and a substance, thrombin, whereby insoluble fibrin is formed. It is furthermore demonstrated that in the absence of calcium salts the blood will remain fluid indefinitely. Then it has been noted that tissue extracts (and extracts of the blood-corpuscles as well) furnish something which greatly facilitates clotting. The secret of coagulation is concealed in the processes that lead to the production of thrombin, which is apparently present in the blood in some antecedent form, prothrombin. The recent theory of Morawitz, and Fuld and Spiro, assumes that the tissues over which blood may pass or the disintegrating platelets in shed blood furnish an activator or kinase which, in the presence of calcium salts converts prothrombin. Recently a counter theory has been proposed by Professor Howell, of Johns Hopkins University, which offers an ingenious explanation of the familiar phenomena. It assumes the existence in normal blood of a substance antagonistic to coagulation. Clotting of blood can thus occur when the antagonist, antithrombin, is counteracted.

"In the circulating blood we find as constant constituents, fibrinogen, prothrombin, calcium salts and antithrombin. The last named substance holds the prothrombin in combination and thus prevents its conversion or activation to thrombin. When the blood is shed, the disintegration of the corpuscles (platelets) furnishes material (thromboplastin) which combines with the antithrombin

and liberates the prothrombin; the latter is then activated by the calcium and acts on the fibrinogen. According to this view the actual process of coagulation involves only three factors, fibrinogen, prothrombin and calcium. These three factors exist normally in the circulating blood, but are prevented from reacting by the presence of antithrombin."

Blood is ready to clot as soon as the antithrombin is removed. Diminished coagulability is here attributable to excess of antithrombin. Davis has shown that when an excess of thrombin is introduced into the circulation there is an almost immediate output of antithrombin. May we not assume that a "part of this automatic regulation may be due to the fact that the prothrombin or thrombin itself constitutes a hormone which excites the secretion of antithrombin"?—*Medical Times*, June, 1912.

Floating Hospital in New York.

The floating hospital of the Guild of St. John has commenced its summer trips and on July 11th, 1600 mothers, children, and sick persons cruised through the Narrows to the Lower Bay. A large number of infants and children in a serious state of health and needing prolonged treatment were transferred with their mothers and other children of the family to the guild's seaside hospital to be kept until the infants have recovered or succumbed. The floating hospital sails on six days of the week.—*The Lancet*, July 27, 1912.

Cholera in Aleppo.

From Aleppo it is learnt that in consequence of an out-break of cholera the authorities have thought it necessary to prohibit the use of water from two suspected sources. Since many ignorant people rebelled against this order, causing serious disturbance, the police had to interfere. Not only in Aleppo, but in many other cities also, as well as in the metropolis itself, the sanitary authorities have to contend against the superstitious ignorance of the populace, who believe that nothing should be done to combat illness, for it is sent by Allah and must be borne patiently and submissively. Cholera also they believe to be God-sent, and its spread to be occasioned by the sacrilegious efforts for prevention and cure.—*The Lancet*, July 27, 1912.

The Surgeon as an Operator on Himself.

The press recently published an account of an operation for hernia performed on himself by Dr. Jules Regnault, medecin de la 1ere Classe de Marine, of Toulon, who has described the conditions under which he performed this feat. He used local anæsthesia by cocaine, a method which he has employed in upwards of 400 cases of hernia. Under certain conditions he combines adrenalin with the cocaine, with a preliminary injection of morphine. Dr. Regnault had with him two surgeons prepared to intervene if necessary. His operation he regarded as a scientific experiment on himself, from which he draws the practical conclusion that local anæsthesia by cocaine under certain conditions can replace general or spinal anæsthesia in a large number of operations, since it has enabled him to operate on himself without pain. In case of urgent necessity, with this method of anæsthesia an isolated surgeon can operate on himself painlessly, a matter of great importance for the ship's surgeon or the colonial medical officer, who may find himself alone on his vessel or in an isolated camp in the bush.—The *Lancet*, July 27, 1912.

The Royal Society's 250th Anniversary.

During the present week the scientific world has united to pay honour to the Royal Society, whose first charter was signed 250 years ago. The celebrations began on Monday evening with a reception at Burlington House; and on Tuesday, after the service at Westminster Abbey, the 300 delegates from the British Isles, the Over-sea Dominions, and foreign countries were formally received by the President, when they presented their addresses of congratulation to the foremost scientific body in the Empire. As Sir Archibald Geikie pointed out, in replying to the toast of the Royal Society at the commemorative banquet that evening at the Guildhall, when the Society was founded it was the only scientific society in the country, but since that time the progress of science had necessitated that every great department of research should have a society of its own; nevertheless, the Royal Society, by welcoming communications in all branches of natural knowledge and electing into its Fellowship the leaders of the other special societies, still remained the one great representative scientific society in the country. Among the various social functions arranged to celebrate the occasion was a garden party on Thursday at Windsor Castle given by the King and Queen, and a brilliant conversazione on Wednesday night at Burlington House.

His Majesty had already shown the interest he takes as patron in the Royal Society and its work by receiving the president and treasurer, at Buckingham Palace on Saturday last and accepting copies of the memorial volumes prepared to commemorate the 250th anniversary of the society's corporate existence. The Royal Charter was granted by Charles II. on July 15th 1662. From the very beginning the Royal Society has had close associations with the profession of medicine ; among the group of scientists in which it had its origin were several physicians, and the long roll of Fellows contains the names of many distinguished medical investigators, while five members of our profession have held the office of President. Several medical bodies were represented among the delegates who presented addresses this week, and to their congratulations may be added those of the whole medical profession throughout the world.—The *Lancet*, July 20, 1912.

A Home for the Widows and Orphans of Physicians.

Mrs. Eugene F. Cordell, 257 W. Hoffman St., Baltimore, Md., herself the widow of a physician, is the president of an organization which is seeking to establish in Baltimore a home for destitute widows and orphans of physicians. This is certainly a worthy object, and one for which there is probably more need than many of us realize. If it be true, as the statisticians tell us, that the average income of the doctor in this country is only \$750.00 a year, it stands to reason that the average man, not to mention the man below the average, cannot provide for the future of his family out of his income ; and those who are more fortunate in the profession will do well to let some crumbs fall from their table upon the bare boards before a poor brother's widow or orphaned children.—The *North American Journal of Homœopathy*, July, 1912.

Lord Rosebery and Medicine.

"Great men," says Schopenhauer, "are like eagles, and build their nest on some lofty solitude ;" but sometimes they descend from the heights to encourage and inspire the dwellers on the plains. Lord Rosebery on July 1st gave away the prizes to the successful students at the London Hospital, and in the course of his address he paid a striking tribute to the "noblest secular profession in the world." The nobility of the medical profession is a well-worn theme, but Lord Rosebery seldom touches a subject which he

does not illuminate and adorn both for those who hear him and for those who afterwards read his words. He began by speaking up for the medical student, whose manners and morals have too long been under the cloud of an early Victorian legend. As Mrs. Prig said of Mrs. Harris, so did Lord Rosebery, but in choicer English, of Bob Sawyer and Ben Allen; and he went further, for he doubted whether anything like them ever existed. Then he spoke with just a tinge of regret of the passing of that familiar figure of his childhood, the country apothecary, who has gone down before the march of progress and of whom little trace is to be found in the modern general practitioner. Lord Rosebery's final eloquent words of praise and understanding of the work and aim of the medical profession were worthy of a statesman whose mind has been trained to see things in a large way and who believes in the better side of things. He said that medicine was the noblest profession of them all, because it was the forlorn hope of humanity itself. It was a forlorn hope, because it never could hope to conquer in the long run; yet is never despaired and was always seeking new inspiration and new strength for the battle, which could only have one termination. It was a forlorn hope, because it combated the reptile of disease, from which, though they might successfully cut off a limb, yet, like the fabled dragon of old, another new limb sprang up to take its place. It was a forlorn hope, because even when they had surmounted and conquered one form of disease another and new form, such as sleeping sickness, was sure to spring up in its place. It was a forlorn hope, because all day and every minute of their career, medical men were fighting with the angel of death, which must inevitably defeat them in the end. He did not think that this was really a gloomy view to take of the work of the medical profession, because a life which could be spent in the complete conquest of obstacles was rare in all professions. But the heroic fight of medical men was not for their own selfish interests, but in the case of humanity itself. Lord Rosebery concluded his inspiring address by asking his hearers to be proud to take part in this great crusade on behalf of mankind. Many fine things have been said of the medical life by laymen, but the Chancellor of the University of London has a special duty towards the medical profession, and his speech at the London Hospital comes at a moment when medical men are particularly in need of sympathy and comprehension on the part of the general public.—*The Lancet*, July 6, 1912.

The Institutional use of Alcoholic Liquors.

In drawing attention to the diminished use of alcohol in hospitals, *The Hospital* has expressed a doubt whether the lessened prescription of alcohol, a diminution it puts at 80 per cent., is justified by results. If it is meant to imply that the ratio of recoveries to deaths and the length of time the patients remain in the wards compare unfavourably with the days of a freer use of alcohol, there can be only one answer. The patients recover at least as satisfactorily, and their average stay in hospital is shorter than in the days of a freer prescription of alcohol. It is suggested that "so-called temperance drinks and more expensive synthetic and chemical stimulants" have taken the place of alcohol. But it is the milk bill and not the drug bill which has increased at the expense of alcohol. In 1862 seven large London hospitals, with 2,254 occupied beds, spent £7,712 on alcoholic liquors; forty years later, with 2,309 occupied beds, they spent £2,925. But in the same time the milk bill rose from £3,026 to £9,035. At Salisbury, in 1865, the alcohol bill was £302 and that for milk £94; forty years later the cost of alcohol was £18 of milk £317. If more expensive synthetic and chemical stimulants are being used the increased cost ought to show in the drug bill. In 1894 the average "surgery and dispensary" expenses at the twelve chief London hospitals was £12·6 per occupied bed; in 1910 it is given as £13·7. But whereas the figures for 1910 include the expenditure on alcohol, those for 1894 do not. As surgical dressings, bandages, instruments, and appliances swell the figures for 1910 there would seem little ground for the assumption that costly drugs have taken the place of alcohol in the hospital armamentarium. As milk has taken the place of alcohol among provisions, so strychnine, one of the cheapest drugs, of which enough to kill a household can be bought for a few coppers, is often used where formerly alcohol would have been employed. That more expensive substances have taken the place of alcohol is far from being proved. *The Hospital* pleads for the addition of beer to the dietary of convalescents, and maintains that it is to be preferred to the "aërated waters flavoured with fruit syrups or the generally indifferently made cocoa or tea which is served out in most wards." But it is not the convalescent patient who gets aërated waters; it is the sufferer from acute symptoms with a high temperature and thirst, for which the aërated beverage is a welcome assuager. Tea and cocoa do not make their appearance more often than at breakfast and tea-time, according to

the custom of the country. If they are badly made that is due to bad methods or want of supervision permitting carelessness, and ought to be remedied. If beer were to be substituted for them, at these meals, there would be something like a hunger, or a thirst, strike among the patients. At the mid-day meal, when it is perhaps the custom of the people not in hospitals to take beer, the medical staff has full power to order or withhold it. Hospitals are staffed neither by teetotal enthusiasts nor pro-alcohol advocates, but by men of sane, moderate views. In their hands the prescription of alcohol may safely be left and we may rest assured that if they see reason to increase the quantity of alcohol their patients are taking, they will not be deterred from prescribing it, either by extreme views or sentimental reasons.—*The British Medical Journal*, July 6, 1912.

The Teeth of Workers in Lead.

While it has been proved that the direct inhalation of dust containing lead in some form or other in white lead factories forms the most faithful method of poisoning with that metal, it is certain that other, more indirect means of absorption may play a part in those trades where metallic lead is handled in mass. Viktor Hinze (*Berl. klin. Woch.*, May 27th, 1912), of St. Petersburg, calls attention to one of these means. He has made observations on a large number of lead workers in an accumulator factory. He noticed that the gums and teeth of the men who were suffering from plumbism were in a bad condition. The former were swollen, hyperaemic, and infiltrated. Tartar encrusted the edges of the teeth. It occurred to him that the removal of the tartar and active care of the teeth and gums might lead to a limitation of the poison within the body. He therefore started by scraping the teeth and collecting the tartar, which he subjected to a careful chemical examination. In one case of a man who showed anaemia, atrophy of the extensor muscles of the left hand, etc., 0.329 gram of tartar was removed, which contained 0.48 per cent. of metallic lead. In this case the seventeenth teeth which the man still possessed were extracted, and both the tartar and the teeth could be thus examined chemically. The examination of the teeth showed that the crowns contained 0.038 per cent. and the roots 0.033 per cent. of metallic lead. It is therefore evident that a deposit of lead is present, which suffices to keep the symptoms of lead intoxication going. On removing

the tartar from the teeth of other workers in the factory, he succeeded in curing the hyperaemia, tendency to bleeding, cyanosis and boggy swelling of the gums, and several obstinate cases of gingivitis soon cleared up. How far the general symptoms of lead poisoning can be avoided by excluding this one source of chronic poisoning is a point that requires more observation, but it is certain that only good can be done by attention to this point in all who are exposed to the dangers of lead poisoning.—The *British Medical Journal*, July 6, 1912.

The Fatal Tool of Motor Traffic.

The number of street accidents is rising day by day, and the pedestrian in a crowded city has to keep a sharp look-out in order to cross the streets in safety. Traffic in London, for example, is becoming so complicated by diversity of speeds that the foot passenger often finds it difficult to adapt his pace to that of the different vehicles. It is easy to avoid an approaching motor vehicle when it is seen, but the adroitness with which this can be done may be entirely defeated by the sudden appearance of a bicycle darting silently in and out of the traffic. The fast-service cyclists in the City of London are thus indirectly a very fruitful source of accidents, and if any scheme of fresh control of the traffic of the streets is meditated—and we think it is urgently called for—we believe that the first important step would be to regulate the presence of bicycles in congested thoroughfares and busy cross points. We believe that this view is shared by the police, who, after all, must be regarded as our best authorities on the subject. The introduction of motor vehicles has produced, of course, a complete revolution in street traffic, and it is obvious that the streets which answered the purpose of horse-drawn traffic, even with its enormous expansion, are ill adapted to the excessive demands placed upon them by motors. Their lines, their narrowness, and their sharp intersections, together with the potential speed of the motor vehicle, are, generally speaking, inconsistent with safety. The present refuges were constructed to help the pedestrian when there was not a motor vehicle on the thoroughfares, and it is conceivable that a reconsideration of the function, position, and plan of these safe islands might lead to a reduction of the terrors of the street. A large proportion of the motor traffic of London consists of motor omnibuses. Since the improvements that have been made in these vehicles by which they are less offensive on account of noise

and smell, and more comfortable to travel in because vibration has been reduced, the public have appreciated them, and to many no doubt the motor omnibus is a great convenience. But while they are a quick means of getting about their speed advantage is often a source of annoyance. There is some force in the suggestion that motor omnibuses, like tram-cars, should have compulsory stopping places at certain points, and it would be a great gain to the public safety if at all stopping places refuges were placed in the road, since, when the omnibus stopped there, the opportunity of crossing the street with safety at that point would be great. In the immediate neighbourhood of these stopping places motor-cabs would soon find it necessary to slow down, and in this way two sets of dangers would be removed. We realise the difficulties which the various kinds of vehicles using crowded streets have introduced into the problem of urban traffic, and the fatality also of making suggestions without a complete knowledge of the complex circumstances which surround the question, but the fatality toll of the motor vehicle is becoming a very serious matter. The time has arrived, we think, when close consideration should be given to the fact that there is now running in our streets a fast and dangerous traffic for which these streets were never constructed. The metropolis bids fair to excel the other cities of the country in its risk to the life and limb of pedestrians, and for this reason the question should receive practical consideration in London. Again, any remedial measures which prove effective in London will certainly work well in less crowded places and under simpler conditions.—The *Lancet*, July 20, 1912.

The Mystery of Life.

Professor Schäfer through Hindu Spectacles.

In connection with Professor Schäfer's address on synthetic life, writes the *Christian Commonwealth*, perhaps it may interest our readers to hear the Hindu view of that mystery. The author of "Indian Problems," "Hindupore," etc., Mr. S. M. Mitra, who, though is well versed in his own Hindu literature, calls himself neither Swami, nor Saint, nor Mahatma, nor even Guru, has very kindly granted our representative an interview. He is already known to the British public as a writer on matters mundane, and has achieved the proud distinction of being the only Hindu quoted as an authority on Indian affairs by Lord Curzon in the House of Lords.

BELITTILING INTUITION.

"What feature of Professor Schäfer's address struck you most?" asked our representative. "The way in which the learned professor poooh-pooohed intuition," was the answer. "His statements, 'We are not aware by intuition,' and 'Nor could we suspect by intuition the secrets of life and death,' run quite contrary to Hindu experience. For by Yoga-trained intuition the Hindu thirty-five centuries ago has wrung out from Nature truths, some of which have taken the Western scientist above thirty centuries to follow. Take, for instance, the circulation of the blood which is mentioned in the Mahabharata, composed not later than 1500 B. C. Not till 1553 A. D. did Michael Servetus, a Spanish physician, suspect in the West the fact of the circulation of blood, and he was followed after about seventy years by William Harvey, who made the 'positive discovery!' Take another instance. Under the names Ida, Pingala, and Susumna, the Hindu Yogi over thirty centuries ago studied the nerve currents which in Western language come under the headings afferent and efferent, sensory and motor, centripetal and centrifugal, and had actually built up a huge system to regulate the nervous forces by the power of concentrated will. Again, take a very recent 'discovery' of Western scientists," continued Mr. Mitra—"I mean *unconscious cerebration*. Descartes, Locke, and their followers in the seventeenth and eighteenth centuries held that consciousness and mind were synonymous. Only since 1876 has the West given its 'scientific' verdict in support of unconscious cerebration, which the Hindu Yogi discovered over thirty centuries back by intuition."

INTUITIVE PERCEPTION.

"What is the Hindu idea of intuition and inspiration?"

"Under *anubhava*, intuition and inspiration mean systematised power of preception, not left to accident as in Europe. By *anubhava* the Yogi has systematised the power of (conscious) perception and (unconscious) apperception of vibrations and the accurate expression thereof. Our system teaches how to develop intuition into inspiration both in extensivity and intensity. To the Hindu an inspiration is neither from an angel nor from anything else *outside* him; it is from *inside* himself. The Yogi has built up an elaborate system for developing *anubhava* in two forms—*i.e.*, the intuitive perception of resemblance and the intuitive realisation of difference. By these two methods he finds out the different gradations in various forms of life, as proved by his world-wide reputation for

going into Samadhi, in which he can 'suspend life,' get himself buried for a week or a fortnight or six weeks, and then come out smiling.

HINDU THEORY OF CREATION.

"Our sages have penetrated to the bed-rock of psychic forces in their enunciation of the process of creation. The Supreme Being of the Hindus, Prajapati, does not create the world from without but actually transforms himself into the creation, and thus to the Hindu mind in the Creator and the creation the source of all life is thoroughly assimilated."

HINDU DEFINITION OF LIFE

"What do you think," we asked, "of the possibility of the creation of life?" "As far as Professor Schäfer's theories are concerned," answered Mr. Mitra, with a smile, "the matter really amounts to this: is he going to create life or to transform it! According to the Hindu, life in its highest form, that of man, is (1) the capacity of *utilising* the psychic forces of the universe; in lesser development it is (2) the capacity for the *expression* of forces outside him; in still lesser development it is (3) the capacity for the *perception* of the manifestation of external stimulus; in yet lesser development it is (4) the capacity of *growth* without preception or expression of Nature's forces; and then we come to (5) matter which simply *responds* to external stimulus.

NOTHING LIFELESS.

"From its rudimentary form to its highest development in man, life to the Hindu runs through every atom in the universe, so for him there can be no such thing as creation of life, because life is there in everything already. According to Western science, even metals, such as railway rails, respond to external stimulus, and this life in metals is expressed in modern Western scientific language as "fatigue of elasticity." Applying the Hindu definition of the rudimentary form of life, response to external stimulus, modern science allows that there is life even in the metal. Over thirty centuries ago the Hindu sages raised the question, 'Is crystallisation a mere mechanical grouping, or is it a birth?' The Western scientist now is forced to call certain classes of crystal 'living crystal.'"

BEHIND CHEMICAL AFFINITY.

"Did the Hindu know of the existence of atoms thirty centuries ago?" we inquired. "Yes, they are mentioned in the Mahabharata," replied Mr. Mitra. "The Yogi found that every-one, and

everything, from animal and plant to atom and molecule, is composed of organised units held together by psychic force, Prana, *behind* the so-called last stage of Western research, Chemical Affinity. The atom has been divided by science into corpuscles and electrons. Even between corpuscles and corpuscles and between electrons and electrons there is affinity which keeps them together. Now, what is this affinity? The great German scientist Haeckel says of Chemical Affinity: 'The idea of Chemical Affinity consists in the fact that the various chemical elements perceive differences in the qualities of other elements, *and experience pleasure or revulsion* at contact with them, and execute their respective movements on this ground.' We Hindus cannot understand how anything could experience pleasure or revulsion without some form of life. That is the whole thing in a nutshell. The difference between the life of a man and life in the specks of slime (monera) in the bed of the sea is, of course, enormous, but if you go down grade by grade the difference is less and less sharply defined, until at length it entirely disappears. Therefore, there is no gulf like that which Professor Schäfer has told the public may be bridged, for surely the Professor does not mean to endow monera in an instant with the intelligence of bees or ants? Perhaps what he really means by the creation of synthetic life is not 'creation,' but a *grafting* of smaller lives, or lives in a lower stage of development, and giving them greater vitality so that emanation of life from them may be within the reach of artificial instruments. It is something like grafting in the plant world. But grafting does not mean *creating* life, for life exists already both in the plant and in the slip grafted; similarly, professor Schäfer's 'creation' of life is simply the mixing up of two lower forms of life to produce a better variety, a stronger form of life, which in its strengthened form can be brought within the perception of the average man. It is the *discovery* of life where Western scientists now find less life or none at all; it is the regulation of life towards quicker evolution. Centuries before the Christian era the Hindu Yogis knew this by intuition, which made Sir Monier Williams remark, 'Indeed, the Hindus were Spinozites before the existence of Spinoza, and Evolutionists many centuries before the doctrine of evolution had been accepted by the scientists of our time.'

HARMONY OF THOUGHT IN EAST AND WEST.

"Noted Western scientists who have proceeded on lines similar to the Hindu with regard to life and psychic force are Ernesto Lugaro,

of Modena, Eugenio Tanzi of Florence, Paul Dubois of Berne, and the Frenchman Camille Flammarion. The Harley Street materialist physician is gradually becoming metaphysician, for now he does not laugh at psycho-therapy. Western thought running on the lines of Evolution will one day be forced to admit that no evolution is possible without Involution; then the circle will be complete, and unity of thought between the Hindu and the West firmly established."

[We entirely agree with Mr. Mitra. Creation of life is something paradoxical like the creation of an atom. Mr. Mitra is right in saying that "creation of Synthetic life is not creation but grafting it is the discovery of life where Western Scientist, now find less life or none at all." Instead of grafting or discovery, it would be better if we say it is hastening the visibility of life by means of our microscope, for beyond the now available powers of the microscope we can not see the manifestations of life. In our address to the students of the Indian Association for the Cultivation of Science some four years ago we said "When we study still more deeply we will find that there is no death in this world—but all life from beginning to the end. Life in the lower forms eludes our vision and thus in our ignorance we call these forms as lifeless or inorganic substances. Man is not created after the image of God but is a particle of that Infinite Wisdom. And as a particle of fire has the power of destroying a forest, so in time this infinitesimal particle will destroy all nescience and show that the great stream of life is flowing with magnificent splendour from that Fountain-head and back to it again. No death—but Eternal Life—from the hottest Nebulae to the coldest icy regions of the Moon." -Ed.]

Gleanings from Contemporary Literature.

BROOKLYN IN THE EARLY HISTORY OF APPENDICITIS. SOME PERSONAL RECOLLECTIONS.

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of Brooklyn, N. Y.

The history of appendicitis is perhaps the most dramatic in all the literature of medicine and surgery. This disease, this insidious enemy of human life, this masked assassin of perfect health, this destroyer of the noblest and the best, a hidden monster with centuries of unchecked ravage to its sinister account, elusive, baffling, dissimulating, rapacious, murderous, stands to-day, in the light of modern science, unmasked, stripped of its last shred of disguise, the most thoroughly understood and the most successfully combated of all important surgical affections with which mankind is afflicted.

This is a triumph of medicine and surgery alike. When a splendid work has been accomplished, a desire to feel that one has contributed something to the result, is both natural and commendable; the satisfaction which comes of the assurance that one has the right to such a feeling, is not to be condemned as selfish complacency. And so, it seems to me, Brooklyn is justified in feeling some pride when she reviews her share in the early history of appendicitis. To me, this is a matter of unusual interest, because all of my professional life has been spent here and, although it began no later than about a quarter of a century ago, that beginning antedates the dawn of rational medicine and surgery. During those early eighties the cause of disease was practically unknown. Bacteriology, as applied to medicine was in embryo. Puerperal fever was common. The peritoneum was holy ground. Antiseptic and clean surgery had not as yet been developed. It was the day of "typhlitic" disease; the word appendicitis had yet to be born. Over and over again the greatest clinicians had come to the very threshold of the solution of appendicular mischief, had been misled by the names which appeared there—perityphlitis, paratyphlitis and the like—and, restrained by fear of entering that holy of holies—the peritoneal cavity—had halted: the truth remained undisclosed. Over and over again during the preceding fifty years the light which had been flashed upon the etiology of inflammatory troubles originating in the right iliac region, bringing the field at times into almost complete illumination, had as often been slowly dimmed by the obscuring pathology of autopsy. In brief, the universal and persistent use by the teachers in our profession, the world over, of befogging and misleading pathological and etiological phraseology and nomenclature remained, for years, the stumbling block in the development of rationality in the treatment of right iliac inflammations. When to this was added the time-honored fear of peritoneal invasion, the

diseased appendix was able to retain its fortified position in the abdominal cavity, without the slightest danger of apprehension by its natural enemy, the surgeon.

But all this was to be changed. Suddenly, out of this mist and darkness, a bright star appeared. It was the herald of the dawn. Reginald Fitz of Boston, a physician and pathologist, in an epoch-making paper which appeared in the *New York Medical Journal*, 1886, brought order out of chaos. His master mind unravelled the whole tangle. He explained the pathology, demonstrated clearly that nearly all acute inflammatory troubles occurring in the right iliac region had their origin in the appendix of the cecum, did away with the misleading terms typhlitis, perityphlitis and paratyphlitis which had formerly been applied to them, substituted for them the one word appendicitis,—in short, left the whole subject on a scientific basis. This paper, coming as it did on the eye of the adoption of antiseptic methods in surgery, emboldened pioneers to invade the peritoneum, seek the diseased appendix, and remove it. Thus was created an epoch in medical and surgical history.

A glance through the first two or three chapters of the "Vermiform Appendix," by Kelly of Baltimore will give in detail the history which I have here briefly summarized. From the time of Mestivier of France who in the year 1759 demonstrated by autopsy the first recorded case of disease of the appendix, to within twenty-five years of the appearance of Fitz's paper in 1886, there was, Kelly tells us, a total of 141 cases of disease of the appendix recorded in French, German, English and Italian literature, but while the symptomatology of these cases was studied with amazing skill and marvelous accuracy, the observers did not succeed in tracing the origin of the mischief to its true source, the appendix, during the life of the patients. Beyond the Willard Parker operation which was first recorded in 1867, and which consisted, for the most part, in evacuating a collection of pus, no deliberate surgical procedure based upon a definite, positive and uncompromising diagnosis for the removal of the appendix, was undertaken until the year 1887. To be sure, Krönlein of Germany in 1884, following the suggestions previously made by Mikulicz had removed the appendix in the case of a boy seventeen years of age suffering from acute peritonitis due to a perforation of the appendix. The case resulted fatally and there was no autopsy. But in this case Krönlein did not make a positive diagnosis of appendicitis but an alternative one of acute intestinal obstruction in the right iliac fossa. So in the case of Treves who did an interval operation on February 16, 1887, for what he diagnosed "relapsing typhilitis," and Trevers in this case, did not remove the appendix but simply corrected what he termed a distortion of it, and closed the abdomen. I had always supposed that Sands, of New York, did the first successful appendectomy and I believe that there are many others who share that belief, but Kelly gives the credit to Morton of Philadelphia. Kelly says, "To Thomas G. Morton of Philadelphia belongs the credit of the first success-

ful operation for the removal of the appendix, deliberately undertaken with an alternative diagnosis of disease in the organ." The date was April 27, 1887. However this may be, in Sands' case no alternative diagnosis was admitted. Moreover, a complete investigation of the history of this case will show that it was the general practitioner who made the early diagnosis and that it was at his request that the surgeon operated. The patient was a young man under the professional care of Dr. Simon Baruch, of New York. Dr. Baruch made an uncompromising diagnosis of perforation of the vermiform appendix and insisted, in the face of surgical hesitation and delay, that a laparotomy should be performed. The patient is alive to-day and will himself verify this statement. Sands operated on December 30, 1887. He did not remove the appendix but trimmed the edges of the perforated portion, sutured it and drained. The patient's condition immediately improved, and the case went on to an uneventful recovery. Following close upon the long stride forward which had been taken by Sands, came the masterly work of his able assistant, McBurney. His paper published in the *New York Medical Journal* in 1889, "must ever deserve to be ranked as one of the classics in the surgical history of America." At this point in the history of appendicitis the exact words of Kelly, it seems to me, are worthy of repetition: "We have now tracted," he says, "the history of our subject through successive stages of its evolution, from the first discovery of a lesion, in 1759, down to the time of Fitz, in 1886, who secured a recognition for its diseases as a distinct class by themselves, banishing the older misleading terms, typhlitis and perityphlitis. We have furthermore witnessed the earliest efforts of the surgeon, at first timidly opening a few abscesses (the classical procedure), and then gradually growing bold enough to take the important step of making the incision before the detection of fluctuation (Hancock, Willard Parker). We then found a few surgeons, endowed with a courage born of the newly inaugurated antiseptic *régime* venturing to open the peritoneum and to straighten out a kink (Traves), or to trim off the edges of a fistula in the appendix (Sands) and, at last, to remove the entire organ (Krönlein, Morton, Sands) . . . Doubt dissipated, and the flood gates once thrown open, the healing waters swept in like a torrent, carrying the beneficent influences from land to land, at first through the greater centres of learning, and then spreading more slowly out, even to the remotest hamlets. . . . In the United States, which holds a leading position in the prompt recognition of the exact nature of this one-time obscure malady, as well as in the adoption of the aggressive therapeutic *régime* necessary for its relief, we look back upon such a galaxy of names as Senn, Weir, McBurney, Worcestor, Marcy, Fowler, Mynter, Richardson, and many others who deserve mention and would receive it in a more extended work."

A complete examination of the literature of this subject would disclose the fact that practically all the writers concur in this statement by

Kelly. Concededly, in the work of unravelling the knotty etiological and pathological problems of appendicitis and in the successful treatment of the disease, American medicine and surgery have taken the highest place among the nations of the world, and Brooklyn's contribution to this result has been neither mean nor small. Thus, in the galaxy of surgeons mentioned by Kelly, there is one whose name will live as long as medical history is written—Brooklyn's pioneer in modern surgery, without whose name the history of appendicitis could not be written—a man of untiring energy, hopeful, confident, resourceful—an able writer, studious, conscientious, lucid—a wise teacher, far, far ahead of his time enthusiastic, inspiring—a surgeon possessing a boldness born of knowledge, skillful, persistent, original—in a word a *great* surgeon—a genius—George Ryerson Fowler. I was so fortunate as to make his acquaintance very early in my professional career and I was honored with his personal friendship and I am therefore somewhat familiar with his first efforts in the surgery of the appendix. I recall very well being present at a meeting of the Medical Society of the Country of Kings, held on October 20, 1885, nearly two years before either Morton or Sands had removed the appendix, at which meeting Fowler, when discussing explorative laparotomy said, "In like manner (by exploratory incision) can be definitely diagnosed diseased conditions of the vermiform appendix, perforation, etc. In these cases, in which the diagnosis is only tolerably certain, ligature, or Lembert's suture above the seat of disease or perforation, and a removal of this apparently useless portion of the alimentary canal, would then be indicated." Again, when discussing a paper entitled, "A Plea for Early Operation in Disease of the Vermiform Appendix," which I had the honor to read before the Medical Society of the Country of Kings in 1891, he makes use of the following prophetic language: "The day will surely come when pathological intra-abdominal conditions whether inflammatory or otherwise requiring any but the most tentative or purely medical treatment, will be placed in the hands of the surgeon for laparotomy, explorative or curative, and nothing short of a reasonably well grounded fear that the patient will perish upon the operating table will deter the surgeon under these circumstances from giving the patient the benefit of a positive diagnosis and the possibility of relief."

Now, of course, attempts such as these, at overturning medical and surgical tradition did not go entirely unchallenged. They frequently met with radical opposition even at the hands of hospital associates who were also personal and admiring friends. The basis of this sort of antagonism, however, is pretty well demonstrated in the following personal experience. On June 16th, 1887, I was called to see a very sick boy 13 years of age. It will be remembered that this was six months before Sands had done his epoch-making operation. I had read the paper by Fitz, published a short time previously, had been thoroughly impressed by it, and had, at different times, discussed it freely with Dr. Fowler. I made a diagnosis in this boy's case of probable perfora-

tion of the appendix, and I strongly urged a laparotomy. Unfortunately Dr. Fowler was absent from the city. Dr. Frank W. Rockwell who was for years Dr. Fowler's associate on the staff of St. Mary's Hospital, and who was also Surgeon to St. John's Hospital, saw the case with me, and declined to operate on the ground that in the absence of classical symptoms of typhlitic disease, tumor, abscess and the like, radical surgical procedure in such a case was not justifiable. The boy died of general peritonitis. The autopsy revealed a perforated appendix containing an intestinal concretion. It is interesting in this connection to realize that if his services had been available on that occasion Dr. Fowler would have removed the vermiform appendix six months earlier than did Sands, and Brooklyn surgery would, in all reasonable certainty, have to-day to its credit the honor of the first successful appendectomy. My much lamented friend, Dr. Rockwell, possessed one of the most cultured minds, and he was one of the most skillful surgeons, but the orthodox "typhlitis" and "perityphlitis" of his day and training had simply enslaved his views on the subject just as they had enslaved for generations the views of the entire medical profession. A proof of this conservatism lies in the fact that at a meeting of the Brooklyn Pathological Society, held on April 11, 1889, at which meeting the history of this boy's case was read and the post mortem specimen presented, there was hardly a voice raised in favor of early operation. Dr. Rockwell was himself present and took part in the discussion. But even in the light of the post mortem findings he expressed his unwillingness to change his views.

This general opposition to early operative interference was also exhibited in contemporaneous literature. Just as Dupuytren, in the early part of the nineteenth century, had thrown the weight of his great reputation as a surgeon against the more advanced views of Méliér, so some of the more modern surgeons took exception to the teachings of Fowler. For example, in the *Annual of the Universal Medical Sciences*, for 1892, Dr. J. William White, Professor of Clinical Surgery in the University of Pennsylvania, in reviewing a paper written by Dr. Fowler, and one of my own, both advocating early operation, says, "The value of such teaching as that of Cruikshank and Fowler depends entirely upon the interpretation put upon the word 'early.' It should never be forgotten, however, that exploratory opening and 'ocular inspection' may be a very fatal procedure by breaking up the adhesions isolating the inflammatory or suppurative focus from the general peritoneal cavity. To teach dogmatically and as a matter of routine that 'if at the end of twenty-four or forty-eight hours there are evidences of advancing disease surgical interference should be resorted to in all cases' would be distinctly to increase the mortality of appendicitis." Concluding his criticism he says, "General statements such as those quoted above are misleading and harmful." The "general statements" to which Professor White took exception, are those with which I concluded my paper and

in which Dr. Fowler concurred. They appear in the *Brooklyn Medical Journal*, for June, 1891, as follows :

First. That inflammatory action in the region of the cæcum has, in almost every instance, its origin in the vermiform appendix.

Second. That the terms perityphlitis and paratyphlitis, as applied to this condition, are not only confusing but misleading, and their use in this connection should be discontinued, and a term expressive of the existing condition substituted.

Third. That a certain number of these cases will go on to early resolution, but that they are subject to recurring attacks.

Fourth. That the vast majority of the cases seriously endanger life, and that, therefore, all cases should be considered with a view to early surgical interference.

Fifth. As we have no means of distinguishing those cases which will go on to the formation of an abscess without accident from those which will result in solution, early laparotomy should be resorted to in doubtful cases in order that by ocular inspection of the parts a correct diagnosis may be made.

Sixth. That if, at the end of twenty-four or forty-eight hours there are evidences of advancing disease, surgical interference should be resorted to in all cases.

The position here taken by Professor White, in 1892, was certainly not in accord with the views held by our Brooklyn surgeons. Pilcher, Bristow, J. B. Bogart, Delatour, Rand, Fowler, Wunderlich, Peter Hughes, J. D. Rushmore, and others were all of them, during that year, doing appendectomies and I am quite sure that none of the gentlemen named, would, in any case of acute appendicitis have considered it wise to wait longer than twenty-four or forty-eight hours, in the presence of advancing disease, before opening the abdomen. However, it is interesting to realize that these early criticisms served their purpose. They helped to frame the issues joined between the two striving adversaries, expectant conservatism vs. surgical activity. The case since then has been well tried by time, always an impartial judge, and the jury, human experience, has rendered its verdict. In this way it has been clearly proven that not only were those teachings which Professor White characterized as "misleading and harmful," free from the dangers to which he referred, but that the contrary is true : it was this very teaching of early operative interference which robbed appendicitis of its terror, reduced its mortality to a comparatively inconsiderable figure, and it is that teaching which is now accepted as authority in the treatment of the disease, throughout the medical and surgical world.

A discussion of Brooklyn's contribution to the early history of appendicitis would of course, be incomplete without considering the work in our hospitals. Unfortunately many of our institutions which were in existence at that time seem to have preserved no histories, if any existed, of the very early cases. While in other hospitals, the records are an in-

complete as to be valueless for consideration in this connection. This fact makes the first decennial report of the Methodist Episcopal (Seney) Hospital interestingly conspicuous. This report was edited by Dr. Lewis S. Pilcher and Dr. Glentworth R. Butler, and published by the Hospital in 1898. It informs us that the total number of patients admitted to the hospital during the first ten years of its existence, namely, from December 15, 1887 to a corresponding date in 1897, was 8750, of which number 340 suffered from appendicitis. It is interesting to observe that the period referred to (1887 to 1897) exactly coincides with the first decade in the history of that disease. The report contains, besides many other evidences of scientific endeavor and achievement, an analytical account of the 340 cases of appendicitis. This account consists of 44 pages of closely printed matter, and 18 illustrations, the first seven of which are colored plates, showing, with great accuracy, the pathological changes occurring in the various tissues of the appendix during different stages of inflammation. The eighth illustration serves especially as an aid to early diagnosis and the remaining 9 plates are devoted to surgical technique. The text deals with the classifications, complications and sequelæ, etiology, symptomatology, diagnosis, differential diagnosis and treatment of 340 among the earliest recognized cases of appendicitis occurring in Brooklyn. Of these 340 cases, 265 recovered and 75 died. All the cases were operated upon, and, in every fatal case a post mortem examination of the abdominal viscera, at least, was obtained, and the findings instructively summarized. Seventy-eight of the 340, were cases of acute appendicitis in which the infection was confined to the appendix. Of these, seventy-three recovered and five died. Two of these five cases died of intercurrent pneumonia and two died of intestinal obstruction which existed prior to the operation. There were one hundred and fifty-nine cases of acute appendicitis complicated with localized suppurative peritonitis. One hundred and forty of these cases recovered and nineteen died. The greatest mortality was, of course, noted in the cases of acute appendicitis with diffuse suppurative peritonitis. There were 59 of these cases of which only ten recovered, forty-nine of them proving fatal. There were 42 cases of chronic appendicitis. Two died and forty recovered. Tubercular appendicitis with tubercular peritonitis was present in two cases. Both recovered.

A detailed examination would, I believe, show that Brooklyn might rest her claim to distinction for sagacity in her early interpretation of appendicitis, solely to her splendid initiative in the treatment, and the scientific educational analysis of these 340 cases, as set forth in the hospital report. Neither the limitations of time nor the scope of this paper will, however, permit of such an examination. But, it should be said that the account is a veritable text-book whose teachings are still authoritative: when we consider that it is one of the *earliest* textbooks, we may well regard it with pride and admiration: its teaching constitutes the pioneer defences, the strategic importance of which is as great

to-day as a generation ago. Amid the fog of bewilderment, instability, conservatism and irresolution, clouding the whole medical and surgical world, it showed the grasp, and demonstrated, with acumen, wisdom and understanding the truth of the proposition, "that appendicitis, uncomplicated by infectious conditions existing outside the appendix itself, is not a grave affection, and that the only certain and safe course to pursue is to remove the offending organ." For this, if for no other reason, it must ever remain a monument to Brooklyn's medicine and surgery.

But let us return for a moment to the simple figures and consider their significance. No part of this whole subject, it seems to me, can give greater satisfaction to the profession in Brooklyn than the mathematical substantiation of its claim to extraordinary activity in the recognition of appendicitis, early on the first decade of its history. The mere fact that during that period, one of Brooklyn's hospitals, newly born, treated 340 cases of the disease does not, of course, constitute such a basis. But if a comparison of the figures shows that during that identical period, a far greater proportion of cases of appendicitis were treated within its walls than were, for example, cared for in the older and larger hospitals of Manhattan, no further evidence is required to prove that Brooklyn was among the earliest to recognize appendicitis and vigorously attack it.

Bearing in mind that the Methodist Episcopal Hospital, during the ten years referred to, admitted 8,750 patients of which 340, or three and seven-eighths per cent. were cases of appendicitis, let us first of all glance at the reports of Roosevelt Hospital for the same period. It should be remembered that both Sands and McBurney were attending surgeons at Roosevelt, Sands in 1887 and McBurney for several years thereafter. From 1887 to 1897 inclusive, there were admitted to Roosevelt Hospital 29,727 patients. Of this number there were 520 cases of appendicitis or one and three-quarters per cent. of the total number of patients admitted, as against three and seven-eighths per cent. in the case of the Seney Hospital. The New York Hospital, during the same ten years, admitted 50,743 patients, of which number 335, or two-thirds of one per cent. were cases of appendicitis. From 1887 to 1897 St. Luke's Hospital admitted 19,844 patients, of which 120, or three-fifths of one per cent. suffered from appendicitis. During the same period, with the exception of the year 1890 (no records are obtainable for that year) the Presbyterian Hospital, of which McBurney was also attending surgeon, treated 22,138 patients, of which number there were 304 cases of appendicitis or one and one-third per cent. The Massachusetts General Hospital, for the ten years ending January 1, 1897, admitted 33,623 patients, of which number there were 655 cases of appendicitis or one and ninety-five one-hundredths per cent. of the total number of cases admitted. The Johns Hopkins Hospital of Baltimore was opened in May, 1889. From that time until 1897 that hospital admitted 16,691 patients, of which 112, or two-thirds of one per cent. were cases of appendicitis as against three and seven-

eighths per cent. in the Methodist Episcopal Hospital. Thus it will be seen that during the first decade in the history of appendicitis the Methodist Episcopal Hospital of Brooklyn treated, proportionately, more than twice as many cases as did the Roosevelt Hospital; nearly three times as many as did the Presbyterian Hospital; nearly six times as many as did St. Luke's Hospital; nearly six and a half times as many as did the New York Hospital; twice as many as did the Massachusetts General Hospital; and five and eight-tenths times as many as did the Johns Hopkins Hospital of Baltimore. These figures, it seems to me, would suggest that in the subject of appendicitis, at least, Brooklyn's Medicine and Surgery exhibited no signs of provincial lethargy.

• Again—Brooklyn's early contributions to the literature of appendicitis have been considerable, and comprise many articles and discussions, besides those already mentioned. In glancing over the files of the *Brooklyn Medical Journal* I find that from 1888 to 1892 there were papers read on the subject before our various societies by Wackerhagen, Rand, J. B. Bogart, Delatour, G. R. Butler, Kungsley, G. R. Fowler and Cruikshank, and that these papers were discussed by Pilcher, McBurney, Weir, Fowler, Bristow, Wunderlich, Figueira and others. Of course Brooklyn's most important effort in that direction is the book entitled "Appendicitis" by George Ryerson Fowler. In the preparation of his material the author was assisted by Van Cott, Ezra Wilson, and Delatour. The first edition of this work was published by Lippincott in 1894, and consisted of a "revised and corrected reprint of a series of articles which appeared in the *Annals of Surgery* under the title 'Observations Upon Appendicitis.'" So thoroughly did the author thus early set forth the subject, that although it is one of the first books written on appendicitis, in so far as it goes, its teaching meets all the requirements of to-day. Some idea may be gathered concerning the extent of the author's early experience with the disease, from the following, which appears in the preface: "Exceptionally favorable opportunities have been afforded me, both in hospital and private practice, of observing the disease now known as appendicitis in its different forms. With the hope of shedding some light upon what has been, until quite recently, one of the darkest chapters in surgical pathology, as well as to offer such observations upon the management of the affection as have been suggested as the result of a personal experience covering now nearly two hundred cases of the disease, the present work was undertaken." When we consider the date—1894—and realize that the book was really a revision, we must stand in amazement at the amount of this work which the author had already accomplished. The records show that up to 1889, Roosevelt Hospital, where McBurney was attending surgeon, had not treated a single case of appendicitis; and that the Presbyterian, St. Luke's and the New York Hospitals treated their first cases in 1890, and yet as early as 1894 we find a Brooklyn surgeon publishing an authoritative work, practically a revision, on appendicitis, based upon personal observation of nearly two

hundred cases. Moreover, the first of these two hundred cases was the first successful operation for the removal of the appendix based upon a positive diagnosis performed in Brooklyn. The operation was done March 14, 1889, at the residence of the patient in the presence of Dr. Benjamin F. Westbrook and myself, Dr. Delatour assisting, and is referred to on page 131 of the first edition of Fowler's book in the following language :

"Miss. M., aged 22, a patient of Dr. Cruikshank, was placed by him under my care for operation, after a consultation of medical men had advised delay in the case. The usual right lateral incision revealed an appendix free in the abdominal cavity, absolutely without adhesions, swollen to the size of the little finger, and perforated in two places. The latter were minute openings, through which soft fecal matter oozed as the ligature was tightened about the base of the organ preliminary to its excision. The patient made a good recovery."

The history of this case, together with the full reports of two similar cases, one of which terminated fatally owing to delayed operation was made the subject of a paper which I had the honor to read before the Medical Society of the County of Kings at the February, 1891, meeting, and that paper appears in the *Brooklyn Medical Journal* of June for that year. It was ably and fully discussed by McBurney, Pilcher, Fowler, Rand, Figueira and others.

I recall very distinctly Dr. Pilcher's discussion, more especially, I think, because his words were uttered in that self-forgetful spirit of analytical thoughtfulness and truth seeking which always characterizes the scientific mind. He said that while he had hitherto raised his voice for a conservative course in the treatment of appendicular disturbances, he felt at that moment much less conservative on the subject than he had felt one year before ; that in the light of a clearer pathology, and, since the development of a better surgical technique, more extended experience had materially changed his views, and he cited as an instance of too great conservatism, the very interesting and instructive case of a physician : "The patient," said Dr. Pilcher, "was ready for operation, and Dr. Fowler was ready to operate on him at that time ; the anæsthetic was about to be administered, but prompted as I was by the feelings I have entertained of a conservative character, I asked that operation should be delayed. Our patient passed on to an uninterrupted recovery at the time, without operation ; but within a few months he had a recurrence which, in spite of treatment went on to the formation of an abscess. All the dangers of suppurating appendicitis were incurred by our friend ; an incision was made and the abscess evacuated, and for the time being the disease was in abeyance ; but after a few months, notwithstanding this, he had another attack which fortunately did not go on to supuration this time, but from this he has recovered, and at the present time our friend is weighing in his mind the question as to whether now it is not wiser for him to have his abdomen opened, and have the appendix in its diseased

condition taken out, and be relieved of his disease. Had my colleague's desire been granted, had not the conservative advice of his consultant been followed, this appendix might have been removed a year ago, when it could have been done with comparative safety and the danger of these recurrent attacks been saved him; and I take great satisfaction in making this public acknowledgment, that I believe my counsel in this case a year ago, that delay should be had and that operation should not be done, was not the best thing for the patient." An attitude so lofty must ever be inspiring; when taken by one whose professional integrity and scientific opinions have always been guiding, it commands an almost reverent attention. I am sure that there were many like myself who were deeply impressed by Dr. Pilcher's testimony, and this incident may be counted as an important one in Brooklyn's progress toward the development and final adoption of our present life-saving method in the surgery of the appendix; for thus convinced of the merits of early operative interference, Dr. Pilcher lost no time in applying the principle, and in this, as in every other branch of surgery, Brooklyn has had, during all these years, the certainty of his leadership and the inspiration of his example.

At the time of the meeting referred to, the profession in Brooklyn was in fever heat on the subject of appendicitis and the fact of McBurney's expected presence had packed the old Bridge Street meeting room to the doors. Never will I forget his clear elucidation of the subject on that occasion. It was plain that everybody present realized, while McBurney was speaking, that we were listening to a master. His story, so simply told, was a reiteration of the splendid position which he had taken early in the history of the disease and which he then expressed in the following language: "We have reached a point where we can never be satisfied with the mortality that attends an expectant treatment. What we wish to accomplish in the treatment of appendicitis, is not to save half of our cases, not four out of five, but all of them. And how is this end to be attained except by improved methods of diagnosis at the very earliest stages? I hope that I may never again go every day to visit a threatening case, waiting bashfully for the authority of a clearly defined general peritonitis before I dare take action." Perhaps no sharper contrast could be drawn between "then and now" than is pictured by these words of McBurney.

A paper such as this must necessarily be more or less discursive, but the few incidents related and facts presented, will, I believe, disclose the existence of a firm and sure foundation for any claim to initiative which Brooklyn may make in the matter of appendicitis. When we recall that it is almost beyond question that Dr. Fowler's absence from the city alone prevented him from anticipating Sands and thus giving to Brooklyn the first successful appendectomy; that some of the first operations following those of Morton and Sands were performed here; that in the first decade of appendicitis, as a known disease, one of our youngest hospitals had a percentage of cases from three or six times that of the

leading hospitals of Manhattan ; that that hospital published a scientific analysis of its cases which even to-day forms a valuable guide in the treatment of the disease ; that without doubt some of our other hospitals would be found to have shown a similar activity, were their records complete for a like period ; that—and perhaps the most significant fact of all—the remarkable activity of our hospitals must be interpreted as proof of the general activity of our local profession ; when we recall that our rank and file contributed to the earliest literature of the disease, setting forth as early as 1891, and in the face of opposition, truths now generally accepted ; and that Dr. George R. Fowler's great work on appendicitis was produced here as early as 1894 ; when we consider all these things, we are, I believe, justified in claiming that Brooklyn's share in making the early history of appendicitis was, indeed, neither mean nor small.—*Long Island Medical Journal*, May, 1912. .

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THE SCIENTIFIC BASIS OF VACCINE THERAPY
AS A HOMŒOPATHIC PROCEDURE.

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THE first question that meets us is, How far is vaccine therapy homœopathic? After the brilliant paper read by Dr. Hare before the British Homœopathic Society a month or two ago, I am not going to delay over a description of the method of preparation of vaccines in detail, but it may be summarized thus: Certain diseases are due to the multiplication in the body of certain organisms and the manufacture by them of toxins; to these attacks the body offers a definite resistance which varies with different diseases but remains constant for any one disease. The problem of relief or cure is, in the main, therefore, the problem of encouraging a specific bodily process and experience shows that the agents that very materially aid in the matter are agents manufactured from the very organisms and toxins that are the causes of the diseases. Further, they are best administered in small doses, as large doses entail great risk of aggravation; therefore, the parallel between vaccines and remedies homœopathically chosen is so complete that it is freely admitted by many of our orthodox brethren. The distinction between isopathy and homœopathy is one that does not disturb

the orthodox mind, but a word or two on the point is due to this audience. Vaccines as prepared are not identical with the organisms living in the body. They are made from the organisms grown on culture media, which process introduces a first difference, then they are killed by heat which modifies them further, even if no chemical be added to the preparation. Inasmuch as they are derived from the identical bacilli that cause the disease the preparations for cure are assuredly very like the agents that cause, but they are not identical. Often, to obtain successful results, they have to be made from the very strain of organisms present in a particular case. Stock vaccines often fail, but nevertheless the modifications are introduced in preparation and the relation between stock vaccine and auto-genous vaccine is the relation between simile and simillimum. Therefore, I contend that the practice is homœopathic rather than isopathic. Isopathy would be rather the practice of auto-inoculation as performed for tubercle at Frimley, and occasionally experimentally in other diseases. Here the patient is given a larger dose than usual of his own manufactured toxins, and this is as near isopathy as can be. It is often very successful; possibly the mechanism of cure differs from that set in motion by a vaccine. I will return to this point later, only reminding you that it is one of the glories of homœopathy to have been unwearying in experiment and faithful to practical results achieved and confirmed by repeated clinical experiments, even when the theoretical explanation of such results has been delayed or absent. If we are sure that our clinical experiments are well conducted, then, while searching eagerly for their explanation, we can continue to practise them and depend on them.

Vaccines, then, are vegetable remedies prepared from vegetable organisms and strictly analogous to vegetable tinctures. Like them they can be diluted and the discussion will, I hope, bring out results obtained from such dilutions. The vaccine as prepared corresponds to the mother tincture. The method of the unit dose is universally employed for its use although the dilutions are

sometimes repeated in administration. Vaccines we owe entirely to the labours of the bacteriologists, but before they were made certain homœopaths had invented and used the nosodes so called, made from diseased tissues; and nosodes are directly comparable to vaccines. In so far as they are active they must be held to contain bacterial toxins, if not actually bacteria; and also as the original substance from which they were made was tissue, it contained, probably, cells modified by bacterial attack and possibly antibodies. Nosodes are therefore of more complex and more indeterminate constitution, and if practice proves that their only really active principle is derived from the bacteria or their toxins, it would seem preferable to use the latter only as in vaccines. I can find little difference in action, for instance, between bacillinum and tuberculinum in potencies, though I think there is some, and, as tuberculinum can be standardized, it seems a preferable preparation. Nosodes (if we except Dr. Duncan's experiments in America) have only been used in potencies. It is only fair to add that it is conceivable that the body would react differently, perhaps even more effectively, to the stimulus of bacteria and toxin, plus modified body tissue (the nosode stimulus), than to the stimulus of bacteria and toxin alone (the vaccine stimulus). I have a recollection that some time ago the results of some experiments were published which pointed rather to a superiority in the nosode stimulus, but they were not followed up and I have been unable to trace them. The recent work of Dr. Leonard Dudgeon attacks the problem from a different point of view, and not being directed to this precise end the experiments are not conclusive concerning it. The point, perhaps, is an academic one; practically we can take it as established, that vaccines are definitely active agents in the cure or relief of their corresponding diseases, and from our point of view as homœopaths there is more than a little ground for considering them as remedies homœopathic to the conditions for which they are used. This granted there are several points of interest for us to consider. First, how do the vaccines cure or relieve? We may say, in a general way, by

stimulating the production of antibodies. But why is the presence of bacteria and toxins due to disease not in itself a sufficient stimulus? Frequently, of course, it is, and spontaneous recovery is fortunately a common phenomenon. In many cases we have no more to do as physicians than tide over patients till the time of natural recovery; or, rather, in many cases that is all that is done: it is nevertheless probable that always there is a possibility of enhancing the speed of a sufficiently effective recovery, and now and then of aiding a defence, in itself ineffective. These last cases we should call genuine cures, and although it is all but impossible to recognize them individually, results taken in the mass show that they do occur. Further, in many cases, the chronic cases, there is little or no spontaneous impulse to recovery. How in all these cases does the vaccine prove more effective as a stimulus than the actual disease? Perhaps not always in the same way. Especially in chronic diseases there is a natural tendency to localize infections to certain areas, more or less mechanically by fibrous or other barriers. Within those areas the power of resistance is rapidly lowered or lost so that the germ can flourish, but little or no germ stimulus passes beyond the barriers, and thus little or no use is made of the resisting power of the rest of the body, though it is probable that all cells and tissues possess more or less of this resisting power. In these cases the vaccine introduced beyond the barriers does call out a widespread response, and although it is not always easy to get the enhanced resisting power into the diseased area, yet when this can be done (and certain mechanical or surgical procedures can often aid in doing it) improvement or recovery follows. This appeal to areas of untapped resources is probably the mechanism of cure in auto-inoculation (isopathy). More blood is driven through tubercular areas, for instance, by the labour at Frimley, the pressure of germ-poison rises in the non-tubercular areas because of the increase in the load carried by the blood, more resistance is developed, and in its turn conveyed back to the areas which need it. But in acute and subacute diseases there is no such precise

limitation of germ and toxin attack to certain areas. Yet we find both that there is sometimes a certain slowness in developing the defence, capable now and then of being accelerated by vaccines, and also sometimes a certain sluggishness of response apart from the time needed, which can be overcome by vaccines. And these statements are, I believe, true, in spite of the fact that to use vaccines in acute diseases is a procedure of some risk, and has to be undertaken without a realization of its dangers. Nevertheless, the results now and then obtained in malignant endocarditis show that out of the nettle-danger safety may be sometimes plucked. Here there is no question of untapped resources. What, then, is the explanation of success? There are no grounds for a dogmatic assertion, but I suggest that the reason lies in the homœopathicity of the vaccine. We are familiar with the fact that during life there is always a reserve power in the cells which is only used in times of great emergency—a deposit account, as it were, as well as a current account, and one which requires time, notice, and the fulfilment of certain formalities for its use. Sometimes the cells seem very loth to draw on it, even with time and urgent appeals. The vaccine is not identical with the toxin. It makes a slightly different appeal, and one to which the body responds. (Note that it does not always respond to this either; more is to be said on this point later—for the moment consider only the successful case.) The response, though not identical to that required by the toxin, is yet near enough to serve as antibody, rather as though when a man cannot for some reason realize securities for an emergency, his bank should make him a loan; but there the parallel breaks down, for by the protoplasmic law of Weigert, stimulus once it is effective calls out a reply that continues both in time and intensity out of all proportion to the stimulus the bank, as it were, pressing money free of charge on its customer till all his needs are more than supplied in a way that actual banks are hardly likely to do. Nevertheless, deficiencies in life as in finance have ultimately to be made good. Hence the phenomena of convalescence. Here, then, we do not tap an

unused area, but tap the areas exhausted or sluggish for the exact antibody to obtain an antibody sufficiently like to serve, as though a nation having worked out gold mines, should find in the same area silver mines previously neglected but sufficient to enable it to meet a stress of war famine. And in some such way must we conceive the action of the indicated remedy as distinct from the vaccine or, at least, there is evidence that its action is sometimes of this kind. We can only conceive of recovery as a natural process and successful treatment as a stimulus to a natural process. The drug sets in motion or encourages a natural mechanism; it does not work a miracle. Correspondingly, such tests of the presence of antibodies as can be applied do seem to show increase as a result of the influence of appropriate drugs. That Phosphorus can affect resistance to tubercle, Veratrum viride to pneumococcus, Hepar sulph. to staphylococcus, rests on a foundation of experiments made by followers of Hahnemann, while the orthodox physicians have found that Yeast affects resistance to staphylococci and creosote to pneumococci. This, after all, is no more than we should expect, and with the remedy, as with the vaccine, the stimulus is applied to a body mechanism, and, by Weigert's law continues to work after the stimulus is exhausted; therefore, the method of unit doses can be applied with drugs as with vaccines. For both vaccines and drugs there is probably always an optimum dose and an optimum interval between doses, though both are individual to the case and not always easy to discover. There are two methods of using vaccines in chronic diseases: the method of the single dose left to work out its effects and repeated when the effect seems exhausted, and the method of cumulative doses. The first method is the one most akin to our usual unit dose drug-giving, unless we are to assume that to give dilutions of 200, and 10 m and upwards, after beginning with 30, is analogous to a cumulative action. Both vaccine and drug may show an initial aggravation or reaction before improvement occurs, and many practitioners like to get this reaction, and do not feel confident that they are on the right

road till they do get it; so that in repeating, if they find a certain dose no longer causes it, they are apt to increase the dose; and in the cumulative method of administering vaccines, which is especially employed in chronic tuberculosis, the aim is as rapidly as possible to enable the patient to endure very large doses without ill-effect, to which end the quantities administered are rapidly increased, although the aim is to avoid any reaction of any severity during the process. Now both methods of administering vaccines, the cumulative and the single dose non-cumulative, can show good results, and possibly each has its appropriate sphere. At any rate, I do not feel that there is enough evidence yet either way for a dogmatic statement. But I confess to a predisposition in favour of the non-cumulative method. The cumulative method involves certain risks, and we know that the production of antibody is not in constant mathematical ratio the amount of virus employed. The body has an extraordinary power of becoming tolerant to any poison, and perhaps can establish, say, a tuberculin habit as well as an opium or arsenic habit. If it does establish such a habit, then the final large doses are certainly rendered necessary, just as De Quincey needed more and more opium before he obtained the effect which he desired, but they are only necessary because, by too rapid and continuous appeal, the power of response has been dulled. If a dose is allowed to work out its effect and be done with, then the simple repetition will repeat the effect, for the power of response is not exhausted. Further, if there is clinical improvement I am not convinced of the need of any obvious aggravation or reaction. There may be quite an effective response without necessarily giving rise to marked symptoms. However, that point is of less importance, and reactions are useful sign-posts to the road to recovery.

There is another group of considerations of interest to the homœopathist. If a disease is due to a distinct germ, if resistance to that germ can be stimulated by a vaccine, then at first sight it would seem that vaccine therapy should have no failures unless there is no power in the body to respond, in

which case death must ensue ultimately with any treatment. Yet, of course, it does fail sometimes apart from death, and the investigation of the causes of failure should, as always, lead on to new successes; therefore, a short consideration of the possibilities may have a value. First, the power of the body at large may be raised, but it may be mechanically difficult to get the increased antibodies to the strongholds of the bacteria. Herein many surgical procedures are required, and methods of increased blood-supply to localities. Secondly, the infection may be a mixed one, and failure may come from lack of a means of attacking *all* the offending causes. These two causes of failure are well known and can be dealt with, and in this connection some investigations, notably those of Dr. Allen, are of great importance. The phenomena of symbiosis, or the effects of the proximity of one germ on another, are noteworthy and significant. For instance, the toxins of one germ sometimes seriously affect body resistance, to those of another: we know clinically how influenza predisposes to other diseases, and how the later stages of pulmonary tubercle are practically always complicated with streptococci and staphylococci; and not only the later stages, for a streptococcus often precedes tubercle, and seems to predispose thereto. On the other hand, tubercle and chronic pneumococcus seem to me, speaking clinically, to be antagonistic, and the relations of symbiosis are not always unfavourable to the body. Dr. Allen maintains that when there is a mixed infection the vaccine should be made from the germs actually *grown together* in culture media, so as to bring out the symbiotic relations. Rosenbach's tuberculin, to my mind perhaps the most satisfactory of tuberculins, is made from tubercle grown together with trichophyton; but there remain cases wherein the resistance to the germs that seems the cause of disease is duly raised, and yet the patient does not recover. What remains to be done? Probably here we are dealing with remote effects of the bacterial attack. The prolonged exposure to toxins has damaged more or less remote organs, or thrust impediments into the mechanism of organic stimuli, of whose complexity we

catch to-day a few glimpses. The germ may be attacked and routed, but these effects remain. Further, even in acute diseases, there may be an excellent response to the specific antigen, and yet, from some pre-existing weakness or defect, some tissue cells outside the ordinary line of attack may give way; the bacteria may, as it were, fail in the frontal attack and turn an unguarded flank; and a typhoid patient, for instance, may deal promptly with the bacillus and yet possess in some other organ, say, lungs or heart, tissue that cannot endure even an attack that is promptly responded to, tissue which may fail and endanger life, while the ordinary antibody mechanism is working well. We know that every case is individual, yet antibody mechanism for any disease is almost certainly universal. Can we not, perhaps, explain the individualizing symptoms as expressions of the individual weak points in a threatened organism, while the characteristic diagnostic symptoms largely express the universal response to the bacterial attack? If this is so we can realize how vaccine therapy may sometimes fail. Of all so-called pathological prescribing it is the most pathological. I object to the term, and would like to substitute morbid anatomical, for surely there must be a pathology of some sort underlying every morbid symptom, even if the cell change that accompanies it is not gross enough for our perception. But of pathological prescribing, as it is generally understood, vaccine therapy is one of the clearest examples, and it possesses both the advantages and the defects of the method. Its advantages are that the recognition of the causative germ decides the drug without further ado, therefore it is a simplification; further, the *modus operandi* of the remedy can be conceived clearly by the mind, therefore it is a plausible treatment. On the other hand, suppose such a case as I have outlined above—where the powers of antibody formation require little stimulation being naturally active, but where there is a tissue weakness that is revealed under strain, although the specific resistance is well developed—in such a case (and we are bound to admit the possibility of such case seeing that the result of vaccine therapy

is not always as satisfactory as the result of putting pennies in the slot of an automatic machine) the clinical picture will present the symptoms and physical signs of attack and defence whereby we make a diagnosis, but over and above these it will present the symptoms due to the strain on the tissues of the body that are below the normal level. These will be the symptoms peculiar to the individual. Now, in choosing a remedy by the whole symptom picture we shall have to take account of these symptoms. If they are urgent they will become the principal ground of choice. Yet if the remedy has a dynamic relation to them, its administration will be wise, for so the struggling cells will be kept to better working pending the time that the natural defence overpowers the invader, and the prescription by totality of the symptoms will be justified, although the remedy indicated has no power over the mechanism of bacterial defence. Dr. Clarke, for instance, records a case of rheumatic fever recovering rapidly under Ignatia when Bryonia had failed: the indications were mental. I conclude, not that Ignatia has any power in stimulating resistance to the micrococcus—that is at least not proven—but that the case had good enough natural general resistance to deal with the germ, but was troubled by the fact that the higher brain centres were less able than those of many patients to endure the stress. Once these centres were helped by the Ignatia, the rest of the recovery proceeded readily enough. On the other hand, there will be many, probably a majority of cases, wherein it will be the normal defence mechanism that requires a stimulus. There is some direct evidence, I repeat, that certain of our drugs can achieve this, and they will be those whose relation to the disorders is of the kind we call pathological, in addition to specific vaccines. The administration hereof of the “pathological” remedy is sound, but they will surely be those cases with no marked symptoms except those obviously traceable to attack and defence, the sphere wherein help is needed. When no outside tissues are suffering stress, there will be few individual and peculiar symptoms, or none. What, then, should be our practical

conclusion? Surely this: given a case of disease clearly referable to a germ or germs, by all means administer the appropriate vaccine or pathological remedy, or even both, but cautiously, and not in too big doses at first. Even if the defence mechanism is in good working order a gentle stimulus will do nothing but good; if the mechanism is defective, some help is needed, and it can be continued and increased. But if the patient presents peculiar and individual symptoms, while a dose or two of vaccine will do no harm and may well do good, let us not hesitate to give the remedy indicated by the totality of symptoms, hoping thereby to bring aid to the cells that need it, and are manifesting their need in symptoms.

There remains one other possibility. Of the late years we have caught a few glimpses of the normal complex body-mechanism of inter-related secretions—so-called internal secretions—whereby for instance, thyroid acts on pituitary gland, pituitary on adrenal. This secretory mechanism seems to play a part in elaborating defences against bacteria; and defects in this chain may be causes of the failure of vaccine therapy. Now all bodily defects manifest in symptoms, and though we have not always the wit to read their meaning, we can always note them. Perhaps some prescriptions based on symptoms cure in this round about way. Symptoms for prescription in such cases would seem in current jargon to be more likely to be "general" than "particular." Defects in secretions of general bodily importance at least might be presumed to give rise to general symptoms, and I suspect that this is the explanation of the success, sometimes at least, of prescribing on general symptoms not only in chronic, but in acute or subacute disorders. If the general symptoms were lacking and vaccines refused to take hold, it might be a justifiable experiment to dose the patient continuously with one or other of the organ preparations according to such indications as we could find, and see if the vaccine were more effective thereafter. But obviously there is a good deal to be done in experiment and observation before such a procedure could be finally justified or condemned.

And now, Mr. President and Gentlemen, you have probably had enough of theories. Followers of Hahnemann have generally kept close to practice, and, provided results followed satisfactorily, have been content to speculate but little. Therein no doubt, they have been wise physicians. It is our primary business to help patients to recover, and in that sphere a practical result outweighs much untried or speculative theory. Nevertheless the mind of man, though uncommonly lazy, very often retains a certain curiosity, and we cannot help asking how and why a result is produced once we have noted the fact of its occurrence. Particularly if we are loth to admit results, we become captious over the absence of theories, and we might find it easier perhaps to make our orthodox brethren listen if we could build up a secure theoretical structure on the foundation of practical experiment, which must always remain the real basis of conviction, and is still, and should be, the prime cause of such conversions as we make. To that end theoretical considerations have a value. We are not yet very far advanced, and it would be madness as yet to do more than catch at such suggestions as the laboratories—chemical, physical, and pathological—offer us and supplement them by the closest clinical observation. But, though not a great deal to do, this little should certainly be done; and if the little I have said has at all encouraged us to work at the matter with fresh ardour, then I have not tried your patience wholly in vain.—*The British Homœopathic Journal*, August, 1912.

SENILITY—WITH SUGGESTIONS AS TO MANAGEMENT.

By JOHN A. McCORKLE, M.D.,
of Brooklyn, N. Y.

IN early youth we are anxious to be grown up. When adult we have no desire to grow old. Still paradoxical as it may seem, we all hope to attain a ripe old age some time. Few are privileged to grow old, and very few to become very old. Of those born to-day, at the age of 47, one-half will be gone; at 90 years

there will be living one in a thousand, and at the advanced and helpless age of 105, out of 50,000 there will be living only one. Our lives expire by a law that limits life. The seeds of decay are sown in our body at our birth, and to die is as natural as to be born. Senescence is as natural as youth; decadence is not less natural than growth and repair. From the time of embryo life all the tissues of the body gradually condense until the primitive gelatinous mass becomes the withered and decrepit old man. It has been said "that the changes from infancy to old age are far greater than those from old age into the grave."

The time is well within the memory of many when malaria was the explanation for many obscure diseases having a symptomatology of chills and high temperature; but with the discovery of the plasmodium malarie this retreat for vague and indefinite knowledge became untenable. Then uric acid became the ruling factor in the minds of the public, and was a satisfactory explanation for a wide range of diseases that were obscure. But now both malaria and uric acid are superseded by arteriosclerosis, or hardening of the arteries. This has been brought into prominence by the daily press in the search for the cause of sudden death in many cases. Blood pressure appeals to the lay mind; it suggests the possibility of rupture, a stroke of apoplexy, paralysis, and the dire consequences that follow in its train. This public discussion helps to intensify a morbid fear engendered by too little knowledge and too much time for self-inspection and selfishness. Many persons independent of active occupation reap a rich harvest of mental suffering from perverted and misdirected mental energy.

Arteriosclerosis is a frequent process in the natural progress of decay. It is seen in nature everywhere. In the spring, hidden away under the beautiful apple blossom is the embryo fruit; its nutrition is supplied by a tiny vessel. During the summer the fruit reaches its full development, and then the nutritive vessel begins to sclerose, the lumen diminished and finally closes up. At this time vital action gives place to chemical action,—the fruit mellowes and falls to the ground. This process in the

fruit is completed within six months. In the human organism the process is the same, but it requires 60, 70, or more years, for its completion. The first step in the decadence of the blood vessels is usually in the nature of atheromatous change, which is degenerative in character and may, and often is, followed by calcification. Only in the degenerating or dead tissue does calcification occur. The source at least of some the lime salts may be the bony structure of the body, the skeleton. Metchnikoff and others have directed attention to the connection of atheromatous lesion of the blood vessels with the degeneration of the bones. In senescence the bones become lighter, more fragile, and are easily broken, because of the absorption of lime. But just how this transference of the lime of the bones to the blood vessels takes place, and how the soluble lime salts in the blood become converted into insoluble salts and precipitated, is not understood.

In nature's handiwork we find that under almost all circumstances her efforts are in the direction of protection and repair, even to extreme old age. Arteriosclerosis is in a measure a safeguard, a protection in the interest of the individual, and tending to prolong life. The deposited lime salts seem to fortify the decaying vessels. At the present time there is much discussion among scientists of this question; "Are the changes incident to advanced life physiological or pathological? Is there a natural death?"

There is a marked similarity between senility and disease. In the aged the modification of various structures leads to weakness and lessened resistance; the individual becomes a ready subject for various diseases, which often prove speedily fatal. Many obstacles prevent a careful and successful investigation of senile decay. The study of domesticated animals will not avail, for their lives are lived under abnormal conditions. The only normal animal life is wild life, and the difficulty of obtaining definite knowledge of it is only too apparent. Again, the wild animal rarely lives out its allotted period of time, for when old and feeble it becomes an easy prey to its natural enemies. The

question is far from settled, but the weight of evidence seems to be on the side of pathological change. Whether pathological or physiological, however, death must be in order that life may be, for

"Life evermore is fed by death,
In earth and sea and sky,
And that a flower may breathe its breath,
Something must die."

A condition not infrequently encountered in the old, or prematurely old, is now known as vascular crisis—a spasm of the vessels, usually associated with arteriosclerosis and high blood pressure. This result of arterial change was brought to the attention of the profession by Pal, of Vienna well illustrated by Cabot in his recent work on "Differential Diagnosis," and discussed by Hirschfelder in his excellent book on "Diseases of the Heart and Arteries."

The symptoms of vascular spasm were formerly accounted for by the transudation of serum, and the ailment was called "serous apoplexy." Speedy disappearance of the symptom, such as paralysis, aphasia, or coma, was explained by the absorption of the serum, with relief from local pressure. Pal's theory explains many of the transient hemiplegias, monoplegias, apophasias, and the like, which occur without warning and from which there is quick recovery. Briefly, a case in point: A lady 77 years of age, remarkably healthy for one so old, was suddenly seized with almost complete hemiplegia, her arteries were hard and tortuous, the blood pressure was 185, and the immediate symptoms were those of cerebral apoplexy. Vaso dilator remedies were given to her, and within a few days she had almost completely recovered. With relief from spasm came disappearance of the infirmity.

A plausible theory must not lead us to forget that vascular spasms occur in the young and middle aged without any manifest evidence of arteriosclerosis. In migraine, the temporal artery is often found firmly contracted and feels under the finger like a piece of piano wire. The spasm is overcome and

the pain relieved by that most powerful vaso dilator, vomiting. No doubt many of the unexplained pains in the abdomen are due to vascular spasm, with or without arterial change. Sir Lauder Brunton characterized these pains as "headache in the stomach."

Seneca, the stoic philosopher and the most brilliant figure of his time, said "Man does not die, he kills himself." What was true twenty centuries ago is equally true and more manifest in the twentieth century now. The pace at which we are living is a killing one. The haste to get rich, to attain some desired object, or to gratify an ambitious longing; the responsibility of a large and harassing practice, medical or legal, or kindred work in other walks of life, tell heavily on the arterial system. Attainment of the object is called success. A better term in many cases would be suicide.

The danger of arterial strain and subsequent degeneration is not confined to the overworked. There is equal, if not greater, danger in luxurious idleness, with its wasted energy and dissipation. Thus the period of decadence is often hastened by the stress and strain of civilized life. Adverse circumstances, mental worries, and brain distress, cause the arrival of age before the appointed time. Illustrations are numerous in our everyday work. A few years ago I attended an ambitious and very conscientious but over-worked business man, aged 60. "He had reached a nervous breakdown, and rest was imperatively required. During even a short period of rest he improved, but like many others of his kind he seemed haunted by a spirit of unrest and insisted on returning to his work. Argument was unavailing. I said to him, using his occupation as an illustration: "You are running a heavily loaded freight train with an express engine and at express speed. You have already run past three danger signals, and an open switch or an open draw-bridge will complete the wreck. You must rest." His reply was, "I have never rested; I don't know how to rest; I can't rest now, and I don't believe I shall ever rest until I get to Greenwood, and then in all probability I shall have a hell

of a time." He returned to his business soon there-after and within fifteen months died suddenly of cerebral hemorrhage. It was a case of chronic suicide. Thus

" Men deal with life
As children with their play,
Who first misuse
Then cast their toys away."

Regulation of diet is very important in the treatment of senility. The unperverted tastes and desires of healthy age will usually guide rightly in the use of food. The taste for animal food diminishes and the desire for the simpler forms of food grows with the years. George Cheyne, 175 years ago, summed up with great wisdom the dietetic management of the old. He said: "every wise man after 50 ought to begin to lessen at least the quantity of his ailment, and if he would continue free of great and dangerous distempers, and preserve his senses and faculties clear to the last, he ought every seven years to go on abating gradually and sensibly, and at last descend out of life as he ascended into it, even into the child's diet."

The management of the aged is often a difficult problem. Little things count for so much. A slight cold, too trifling for treatment or attention in middle life, may turn the scale from case of disease and the end of life. Old people constitute a chilly race. This is due in a measure to the obsolescence of the cutaneous capillaries. Hence the traditional chimney corner becomes their favorite resting place. The old Scotchman, who, in order to avoid the chill and treachery of his native climate, went to bed in the fall and got up in the spring, took a long chance of dying of old age.

Many old people sleep far more than they think they do. On the other hand many old people sleep far less than we think they do, and the want of sleep in the decadent is a constant menace to comfort, well-being and life. A sleepless night propagates its unpleasant influence into and casts a gloom over the following day. Pure circulating air, without draft, is a wonderful tonic to the aged, but the bed should be warm. Cold sheets drive the blood out of the cutaneous area and in on the

internal organs, especially the brain, stimulating it above the sleep point. It has been said that "wine is the milk of old age." A little hot toddy at bedtime is a wonderful hypnotic for the old. At first it stimulates the cerebral circulation, giving pleasant thoughts and a sense of well-being and comfort. Soon the tide changes and then the warm blood from the internal organs is carried to the surface, giving a sense of warmth to the body. The circulation in the brain comes down to the sleep point and sleep speedily supervenes. But this sleep is often of short duration and must be supplemented by other remedies. Chloralamid, although not much used in general practice, is of signal service in treatment of the old. It is soluble in whiskey, and may be taken with the hot toddy at bed time. By the time the alcohol has reached its limit of usefulness the chloralamid will take up the good work, and in the majority of cases a good night's sleep is the result. Even though the patient be disturbed by a distended bladder he soon drops to sleep again.

The senile heart is the organ that calls for the most watchful care; having grown weary, it is often sorely in need of help. Dr. Richardson made the statement years ago that almost every heart after 60, without any manifest disease, becomes at times irregular, and that not infrequently there may be established a regular irregularity of the heart. Many remedies are at hand, but when we get into trouble digitalis is the remedy par excellence. The question arises at once, what about the blood pressure? Not all sclerosed arteries have high blood pressure. In many cases there is hypotension, and here digitalis becomes invaluable, and even with high tension its untoward action can be counterbalanced by vaso dilators, such as potassium iodide, and erythrol tetranitrate. The senile heart as a rule does not need large doses of the remedy, nor oft repeated doses. The text book dose is too large and repeated too often. Digitalis is a chronic remedy and lasting in its effects. Its action, once established, will last two or three days after the administration of it has been discontinued. In senility a sustaining dose is indicated—a single dose once a day may be all that will be required. Any preparation of digitalis may serve the purpose, but the fat free tincture is perhaps better borne by the stomach. Another preparation known as

Nateville's digitalin is a most reliable one. The dose is small ; one granule once a day, or every second day, may be all sufficient. Some years ago a patient 78 years old, hale and hearty in his green old age, spent a summer in the country. He had what his family called "a touch of the sun." He returned to the city in the fall a decrepit and broken-down old man. His heart was irregular and intermittent, with some precordial distress and a painful consciousness of the disturbed action of the organ. Various remedies were tried without avail. He was then put on Nateville granules, one every second day, this dose, being sufficient to control all the distressing symptoms. From time to time the remedy was withheld, but always with a return of his suffering. In short, he took the remedy almost up to the time of his death at the age of 82. He died not from cerebral apoplexy, as might have been feared, but from senile pneumonia.

Another excellent remedy for the very old is opium. After life's work is over and when the affairs of to-day have lost their interest and memories of the past fill the dreamy waking hours, opium in small doses becomes a solace and a comfort to the aged and infirm. In small quantities it is an excellent heart tonic, as well as a gentle cerebral stimulant, and this is in keeping with the well known therapeutic law that when a stimulating drug (of which opium is the type), is given in small doses, the period of stimulation is long and the stage of sedation is short, or nil ; but if the dose is large, the stage of stimulation is short and that of sedation is long, as in opium sleep. Dr. H. C. Wood years ago advocated the use of opium in advanced senility, and most wisely. The gum opium is the preferable form for its administration.

The unrest of the peripheral nerves, and general nervousness, known as "the fidgets," often occur in old people of nervous temperaments. Bromides might seem to be indicated here as in similar states in early life, where they are so very efficient. But in the aged they are contra-indicated, as shown by their physiological action. In the adult, bromides confuse the mental process and make it slow. Under their influence ideas group themselves slowly and are put into words with difficulty, while speech like the mental state found in senility. The physiolo-

gical action of bromides therefore becomes an untoward action in the aged and their use should be interdicted.

In treating the diseases of advanced life the least possible amount of medicine that will meet the indication is the measure of the dosage.

Those who have crossed the divide and have begun the descent should heed the warning signal, "down brakes," and level down their work, their desires and their pleasures in keeping with the income of their circulation and the age at which they have arrived. They should not give up work altogether, for this simply courts decay, but they should work less and be able to do it better, because of accumulated knowledge, the result of years of practice, observation and experience. It would be well if we could bow gracefully to the inevitable. The pitiful vanity of some leads them to resort to various artificial methods for prolonging at least the appearance of younger years, but nature resents this insult and in turn carves the lines of senility more deeply, thus making the contrast more marked and the artificiality more apparent.

The arteries are, as a rule, the first to show senility. The veins are rarely implicated. The arteries led the van in growth and development and are the first to show the first stage of decadence. This is easily explained when we recall our knowledge that there is a ceaseless rush of blood through the vessels at a speed of ten inches per second, making the circuit of the body in 22 to 30 seconds, and that those vessels near the heart are subjected to a distending force of a nearly $2\frac{1}{2}$ pounds to the square inch. This distention is repeated 70 to 80 times every minute, 80,000 to 100,000 times every day, and during a long life a number of times rising to figures inconceivable. The mystery is not why a blood vessel should occasionally break with disastrous results, but how the blood vessels strain so long and serve their purpose so admirably and so well.—*Long Island Medical Journal*, June, 1912.

EDITOR'S NOTES.

Graves's Disease.

The question whether the phenomena of Graves's disease can be explained on the theory of hyperthyroidism or disthyroidism, or on the basis of a hyperadrenalinaemia, is still unsettled. As a contribution towards solution, Pley (*Gazz. degli Osped.*, February 20th, 1912) has experimented on dogs by giving (1) intravenous injections of the blood serum of subjects suffering from Graves's disease; (2) by injections of thyroid extract obtained from the same subjects. Of the six serums used in the first series, one proved inactive, three only slightly active, and two active. The chief results obtained by injection of the serum were a more or less marked acceleration of the heart beats, a diminution in the fullness of the cardiac systole, an elevation of the arterial pressure, rapidly succeeded by a marked lowering and a diminished excitability of the moderator nerves of the heart. These facts point, in the author's opinion not to hyperthyroidism nor to adrenalinaemia, but to disthyroidism. Again, comparative experiments with injections of thyroid extract from Graves's disease and from normal thyroid gland do not show that the effects produced by the former are so much more marked than the latter as to support a theory of hyperthyroidism.—*The British Medical Journal*, July 6, 1912.

Infantile Paralysis of Duchesne-Erb Type.

D'Espina (*Ann. de med. et chir. inf.*, xvi, 1912) describes the case of a boy, aged 29 months, suffering from this disease and he bases his diagnosis on the following facts. (1) Etiology and onset: The child was suddenly seized with paraplegia whilst in perfect health at the age of 26 months, the age of predilection of infantile paralysis. The prodromata were short and accompanied by fever. (2) Progress: A purely motor paralysis with maximum of intensity in the first week of the disease and gradually decreasing. The paralysis disappeared from the lower limbs and was principally localized in the two deltoids, which were markedly atrophied. This localization in the upper limbs is not so frequent as in the lower, but in a sixth of the cases quoted by various authors only the upper limb was paralysed and atrophied. The objections that may be raised to the diagnosis are (1) increase of the patellar reflexes, but this condition has been noticed before in this disease; (2) normal electrical reactions. Here again, this is not unique, as cases

mentioned by various authors show. The author intends to treat the case with massage and electricity.—*The British Medical Journal*, July 13, 1912.

Treatment of Psoriasis.

Sabat   (*Progr  s m  d.*, April 13th, 1912) says that oil of cade is one of the best applications and the easiest to apply in the active treatment of psoriasis. When the disease is extensive it should be applied pure, the patient wearing a flannel shirt and drawers, which, if possible, he should keep on night and day. If this is impossible on account of the odour, prolonged daily baths should be used, containing 25 to 100 grams of the oil with a like quantity of black soap. For less extensive patches a thick ointment should be prescribed: Oil of cade 10 grams, zinc oxide 20 grams, vaseline 30 grams. For small isolated patches 10 grams of the oil in 20 grams of collodion is a convenient application. Chrysarobin, Chrysophanic acid, and pyrogalllic acid have a more rapid action, but they colour the skin; the first two may provoke local irritation and the third is poisonous. They can only be applied to small unbroken surfaces on the trunk and limbs, and then only in adults. Calomel (1 to 3 grams in vaseline 30 grams) cannot be applied to large surfaces, but is the method of choice for the face and hairy parts. Salicylic acid ointment (1 in 50) is the least unsatisfactory treatment for ungual lesions. Internal treatment is necessary only in obstinate cases; it is very deceptive, the best of the many suggested drugs being cacodylate of arsenic in large doses (but only in the chronic form) and thyroid extract. The hygiene and alimentary regime usual for arthritics should be prescribed. Hydromineral "cures" give very uncertain results; the arsenical spring are indicated, especially in recurrent cases, and the sulphurous springs in inveterate cases, particularly if associated with arthropathy.—*The British Medical Journal*, July 13, 1912.

An Old Remedy Revived.

The therapeutic virtues of garlic have been at intervals extolled by many writers. Sydenham used it in cases of small-pox, and ancient records tell of its employment in a whole series of complaints. In America it still holds a place for the relief of certain pulmonary diseases, and from Ireland we can now record a strong testimony in favour of its influence upon tuberculous disease, both pulmonary and general. Dr. William C. Minchin, of Dublin, stirred by an

account of a remarkable recovery of a tuberculous bone case in which the cure appeared to be effected by a mixture of soot, butter, and garlic, set himself to study the results of treatment by the sulphide of allyl in tuberculous joint cases. His success in some of the cases quoted appears to have been remarkable, and photographs of patients before and after treatment are given. It has long been known that salts derived from the *Allium sativum* have bactericidal power, but the intense aversion which so many people have to the all-pervading smell of garlic has no doubt rendered their use unpopular. Such cases as those recorded by Dr. Minchin may fairly be claimed as proof that in certain individuals the drug may practically annihilate the activity of tubercle, but he has found that in others, where a strong antipathy to garlic exists, its administration in any form has failed to give relief. The widely extended use of garlic among the lower orders in Italy may perhaps be traced to a therapeutic origin.—The *British Medical Journal*, July 13, 1912.

The Medical Profession and Public Affairs.

The Lord Mayor of London, who has been elected an honorary member of the West London Medico-Chirurgical Society at the West London Hospital, said that the medical profession had too long separated itself from corporate and parochial duties, and that truest interests of the profession had suffered thereby. He hoped that the profession would no longer hold aloof, but would bring to these public duties the analytical ideas wherewith their training fitted them. The Lord Mayor's remarks are well timed. We are entering now the age when the particular mental training conferred by the pursuit of the biological sciences, of which medicine is a glorious part, is of greater importance to the progress of the community than that of either the soldier or the lawyer. The warrior served the community's need best in the age of acquisition and defence; the lawyer in the age of organisation. It is now the turn of the scientist, and especially the biologist, in the age of social development. If anyone doubts the truth of this let him note the innumerable points at which biological data are inextricably involved in all the most important and wide-reaching of modern legislative proposition.—The *Lancet*, August 10, 1912.

Intrauterine Crying.

Allard (*Normandie médicale*) publishes a case of this very rare condition. After an unsuccessful application of forceps the writer was allowing his patient to rest, when he perceived cries, which were very distinct, though muffled, like the crying of a newly-born baby under the bedclothes. A woman who was holding the patient's right leg remarked that evidently the baby was growing weary, for he was crying, and almost at the same instant the mother asked anxiously, "What is that noise?" The husband, who was behind his wife, and the nurse who was looking after the patient's left leg also heard the sounds, which were repeated four or five times successively, and followed by a set of cries which could have been heard all over the room. The child was very vigorous, and violent movements could be felt through an abdominal wall which was relaxed by seven previous pregnancies; during the last three months the mother had suffered much from fetal movements. The child was eventually delivered with forceps, but could not be resuscitated, either because it had inspired liquor amnii or because of the compression of the head during extraction. Tarnier and Chantreuil, in the article on "Modifications of the Fetal Functions produced by Labour" (1888), mention intrauterine cries, but Velpeau used to say, "If I had heard them myself, I should not believe in them." Allard thinks that if Velpeau had been present at his case he would have been convinced, and he affirms that, however rare it may be, intrauterine crying may happen—because he heard it, because he is certain that no source of error was possible, and because he can invoke the evidence of four disinterested persons who were present at the confinement.—*The British Medical Journal*, July 20, 1912.

The Royal Society and Charles II.

Mr. A. C. A. Brett, in his *History of Charles II and His Court* (Methuen and Co.), quotes the following description given by Cosmo III Grand Duke of Tuscany, in his *Travels*, of a meeting of the Royal Society in 1664-69: "The President sits in an elbow chair in the middle of the table of the assembly, with his back to the chimney, and has a large silver mace, with the royal arms, lying before him, with which it is customary, for the mace-bearer, or porter of the academy, to walk before him. He has a little wooden mace in his hand, with which he strikes the table when he would

command silence. The secretary sits at the head of the table, the others taking seats indifferently on backed wooden seats in two rows; and if any one enter unexpectedly, after the meeting has begun, every one remains seated, nor is his salutation returned, except by the President alone, who acknowledges it by an inclination of the head, that he may not interrupt the person who is speaking on the subject or experiment proposed by the secretary. They observe the custom of speaking to the President uncovered, waiting from him for permission to be covered." Butler ridiculed the Royal Society in particular and scientific inquiry generally, in the "Elephant in the Moon." The following is his account of their labours:

- These were their learned speculations,
- And all their constant occupations,
To measure wind, and weight the air,
And turn a circle to a square;
To make a powder of the sun,
By which all doors should b' undone;
To find the North-West Passage out,
Although the farthest way about;
If chymist from a rose's ashes
Can raise the rose itself in glasses?
Whether the line of incidence
Rise from the object, or the sense?
To shew th' elixir in a bath
- Of hope, credulity, and faith;
To explicate, by subtle hints,
The grain of diamonds and flints,
And in the braying of an ass
Find out the treble and the bass;
If mares neigh alto, and a cow
A double diapason low.

Charles II was much interested in science, especially in chemistry, natural history, and mechanics. He had a laboratory built for him by a French professor in St. James's Park, and a private "elaboratory" under his closet at Whitehall filled with the "chymical glasses" and other apparatus which puzzled Pepys. There the King spent many hours with Sir Robert Morary. *Evelyn's Diary* is full of references to conversations with the King about clocks, watches, bees, Saturn, the diarist's projects and many other things. The King kept a menagerie and aviary in St. James's Park, and

paid much attention to horticulture. He witnessed, if he did not actually perform, dissections of the human body. In a letter from Sir Charles Lyttleton to Christopher Hatton dated July 25th, 1676, there is the following passage: "Here is a Welshman who pretends to cure any wound whatsoever in the bowels or any part, except the heart, in a few hours . . . Severale pigges, kidds and chickens have, in the King's presence, been run into the bowells and through the head with knives and hot irons and cured in a short time by this man's medicines." When, as Grammont relates, a lady had the misfortune to be delivered of a child in the ballroom at Whitehall, the little body was carried off before the jesting courtiers to the King's "elaboratory" for examination. Valenteigne Greatrakes, the Irish "stroker" and faith healer, was invited to work his wonders before the Court in March, 1666. It is related that he did things "beyond the power of Nature." One would like to know what Charles thought of it all. It is perhaps significant that Greatrakes soon afterwards returned to Ireland and gave up his healing manifestations.—The *British Medical Journal*, July 20, 1912.

Thorium "X" Poisoning.

In a recent article some account was given of the therapeutic action of thorium X, and of the endeavours at present being made to find a substitute for radium equally efficacious but less costly. Thorium X and actinium appear to possess this qualification. The history of the application of the Roëntgen-ray apparatus has unfortunately been marred by cases in which serious damage has been inflicted to the tissues both of the experimenter and of the patient. Greater experience has led to greater caution and to the employment of certain protective arrangements whereby it has been found possible to utilize α rays with a fair degree of safety. With the knowledge of the serious dangers attending the use of these rays, it is somewhat surprising that emanations from radio-active substances have proved comparatively harmless; but a case recently reported by Dr. Gudzent shows that some danger exists. A woman, aged 58, had been suffering from chronic arthritis. She was somewhat corpulent, but the internal organs were sound, save that she had complained of some palpitation shortly before admission. At first Dr. Gudzent treated her with iron, arsenic and quinine, together with radium compresses, but no improvement took place. He therefore injected a dose of thorium X solution, representing

900,000 Maché units. The patient complained of pain in the hands after the injection, but otherwise no ill effects were noticed; nine days later 550,000 Maché units were injected, again without any definite improvement. The third injection this time of 10,000 Maché units of thorium A, was followed by a slight feeling of sickness and rise of temperature, which rapidly disappeared. The leucocytes tended to increase in number after this injection. The results of the injections having been so unsatisfactory, a fourth of 3,000,000 Maché units of thorium X was given. She remained in good general health for three days, and then left the hospital at her own desire. Four days later she sought readmission on account of pains in the abdomen, diarrhoea, and weakness. The temperature rose to 102.8° F. and the pulse rate was about 105. On the following day a group of lymphatic glands under the sterno-mostoid muscle became inflamed. The diarrhoea persisted, and two days later became blood-stained. The leucocytes sank to 312. Blood was vomited in the night, and, in spite of all the remedies which Dr. Gudzent could apply, the woman died seven days after her admission on the second occasion. It would seem that the thorium X in full dose had given rise to an illness characterized by acute haemorrhages from the mucous surfaces. Orth and Bickel have found that dogs may be poisoned in the same way. The late onset of symptoms was also noted in the experimental cases. It must further be pointed out that the dose, although high, cannot be regarded as theroic. The same amount has been given many a time without harm to other patients, and in animal experiments still higher doses have been tolerated with ease. The patient was, therefore, unusually intolerant to large quantities of the radio-active emanation. Time alone can determine whether this intolerance is of rare occurrence or not. We trust that it may be so.—*The British Medical Journal*, July 20, 1912.

The Suicidal Menace.

Progress in all things is the tendency of the age. Unfortunately some of the tragedies of life are keeping pace with the growing number of good things. The suicide rate is higher than ever and figures compiled by Frederick L. Hoffman, of Newark, N. J., the life insurance statistician, show that in 100 of the smaller cities of the United States the rate of suicides in 1911 had increased to 19.8 per 100,000. Twenty years ago the rate in these cities was 12.8

per 100,000. Mr. Hoffman's statistics go to show that there were about 15,000 cases of self-murder in this country in 1911. Three men destroyed themselves to one woman. The reasons attributed to suicide are mental aberration, nervous diseases, alcoholism, sorrow and distress in the order named.

Undoubtedly the spirit of economic unrest pervading the country plays its part as a causative agent. Competition in every walk of life is fiercer than ever before and through the inexorable law of the survival of the fittest the weak are ruthlessly shunted aside. Suicide is the refuge of some, crime of others. Thoughtful men in every land are giving consideration to this problem. Socialism is offered by its adherents as a panacea which will cure this disturbing and serious social illness. Various isms are put forward as remedies. The medical profession must discover the cause and prevention of every disease before attempting to study economic problems, but it will not be amiss if its members look more carefully into the question of suicide. It is a distinct menace to society and while men differ as to the ethics of self-murder all admit that the increase in the suicide rate is sufficiently alarming to warrant investigation.—*Medical Times*, August, 1912.

The Decline in the Birth-rate and Death-rate.

Sir Shirley Murphy takes up the striking position that much of the well-known decline of the death-rate, not in England alone, but in Europe generally, which has occurred during the last 50 years, is a natural phenomenon which has appeared independently of the machinations of man. He is far from denying that much of the improvement of the conditions of life, tending, as it does, to increase resistance to disease, is due to human agency, but he is clearly anxious, and for a practical sanitarian laudably anxious, to show that, making full allowance for what man has done, Nature has largely determined the decline of the death-rate.

Passing to a consideration of the birth-rate and its parallelism to the death-rate, both in London and elsewhere, Sir SHIRLEY MURPHY compares definitely, though in guarded terms, the behaviour of the rates in three groups of districts, the grouping being based on the social condition of the parents. The astonishing conclusion is reached that the decline in both birth-rate and death-rate has been least in the most favoured classes. Sir SHIRLEY MURPHY suggests that the rates of birth and death are so intimately connected

that they are probably interdependent; and further, that inasmuch as fertility is inherited in man, and susceptibility to some diseases (tuberculosis, for example) is possibly inherited, morbidity also may be inherited in a much wider sense than is now held to be the case. If we could establish a relationship between fertility and morbidity, we should have an explanation of the behaviour of the rates of natality as well as of mortality. Of course, Sir SHIRLEY MURPHY does not deny that man, by his efforts to limit families, may have contributed to the decline in the birth-rate, but he contends that this decline is too widespread, too intimately linked with the death-rate, to be other than in large degree a natural phenomenon.

The matter is necessarily speculative, but Sir SHIRLEY MURPHY believes that he has ground enough to claim that the hypothesis advanced deserves further investigation, and that is the opinion to which most of our readers will come. The reports of the Registrar-General, the published opinions of Professor KARL PEARSON, and others, have been used with great shrewdness to enforce the arguments and we regret that according to the rules governing presidential addresses no discussion upon the views of a president was permissible. Both at home and abroad the coincidence of decline in the rates both of mortality and of natality is an established fact; whether or not they are interdependent, as suggested by Sir SHIRLEY MURPHY, still remains to be shown, but at any rate he has produced reasons for modifying our beliefs. It happens too often that thoroughly important questions get shelved in the public mind because a simple answer is accepted as a true and complete one. On how many platforms, from how many pulpits, has not the information gone forth that the decline in the death-rate of any community—any community whatever that is under discussion—was done to improved sanitation? We see from the evidence that Sir SHIRLEY MURPHY has brought together that such sanitary enterprise may only have played a secondary part. Again, have we not all been told with such persistence as to force acquiescence that the decline in the birth-rate has been voluntarily brought about? Sir SHIRLEY MURPHY's evidence makes this very doubtful. He questions whether any artificial measures could possibly have such widespread and synchronous results. Lastly, everyone knows that the decline in the birth-rate has taken place most markedly in the idle and luxurious classes. Everyone knows it because everyone has been told it so often, but Sir SHIRLEY MURPHY doubts whether it is correct.—The *Lancet*, August 10, 1912.

CLINICAL RECORD.

HYOSCYAMUS AND INSANITY.

By DR. R. HAEHL, STUTTGART.

Translated for the Homœopathic Recorder from Hom. Monatsblätter.

1. The following case is taken from *Hirschel's Zeitschrift*, Vol. 4, page 117 :

A healthy, somewhat slender, fair-haired journeyman, is in love head over heels with a young woman, who does not return his love, though she some time before had been in love with him without getting any return. The young man became quiet, dreamy and indolent in his work, groaned at times as if over-taken by severe misfortune, until at last he became quite silent and taciturn, would neither eat nor drink, and lay on his couch, indifferent and with woe-begone features, only at times heaving a deep sigh. Nothing made any impression on him ; he would scarcely answer yes or no, and looks drowsy all the time. *Hyoscyamus* 2, two drops every two or three hours, brought alleviation in thirty-six hours, and in a few days effected a cure.

2. Dr. J. C. Schoenfeld at the meeting of the Homœopathic Physicians at Dortmund, reported the following case (see *Allgem. Hom. Zeit.*, Vol. 57, page 102) :

A woman who was living under unfavourable circumstances became melancholic. One evening when they thought she was asleep she jumped from her bed and began to rave, to beat and to curse, etc. She was seized and tied, and an allopathic physician was called in. He declared her case incurable. A second physician gave her a dose of *Opium*, and as no sleep followed, he also thought he had to declare her incurable. She was brought to the poorhouse, and I was called in and found her lying in bed tied. She was cursing, spitting, singing, biting, praying, weeping, and stamping, spoke in words of a foreign tongue in an incessant mix-up. I gave her *Stramonium* 3 in water. Her raving then diminished in intensity, and on the fourth day she questioned me in quite a rational manner. After that she became sexually excited and jealous. I then passed over to *Hyoscyamus*. Six days after this they could allow her to go around unattended without causing any trouble. Only during the nights she was still very restless. When going to sleep she would frequently jump up with violent cursing and threatening with her fists, as if she was going to beat again. For this I gave her *Veratrum* 3, one drop morning and evening for a whole week with good results. After this she attended to her work in quite a rational manner and I could dismiss her as cured.—*The Homœopathic Recorder*, August 15, 1912.

Gleanings from Contemporary Literature.

THE COMPOSITE PHYSICIAN.

By JAMES C. WOOD, A.M., M.D., Cleveland, O.

Agreeably to custom, we whom an all-loving Providence has mercifully spared, meet tonight to pay tribute to the members of the American Institute of Homœopathy who during the last year have been called hence,—a custom which is not only a beautiful one but which also serves to remind us who are yet among the living that we, too, are mortal, a fact which the noise and dust of the highway, and our frequent escapes from war, famine, accident and pestilence often cause us to forget. Through the daily witnessing of disease and death we are too apt to become self-confident and indifferent, coming almost to believe that we have a charmed life. The time and the occasion speak more plainly than words the fatuity of this belief.

The profession of medicine, like that of the law or the ministry, develops character along lines peculiar to itself. It has occurred to me that in no way could a more appropriate tribute be paid to our departed friends than in the consideration of those factors which helped to make them what they were, those factors which had so large a part in creating attributes which endeared them to us. Necessarily a detailed discussion of the many phases of the subject bearing upon the individual and the development of genius would carry one into the field of heredity and environment which is far too vast for the present moment. I therefore propose to present to you to the best of my ability a picture of the Composite Physician.

I feel that I am pretty well acquainted with the Composite Physician for I have been on most intimate terms with him for more than a third of a century, either as companion or teacher. I entered medical college with him thirty-six years ago. He was then a struggling student with rural instincts, earnest, honest, and with a limited preliminary education. I am inclined to believe that the consciousness of his limited preparation inspired him to harder work in his chosen profession than he might in a measure, by increasing his knowledge of the science and art of medicine compensate himself for his shortcomings in classic training. He was rather a rough diamond and he was attracted to the profession of medicine because of his fondness in his academic work for the natural sciences and, let us hope, for altruistic reasons as well. He realized that the then prescribed course of study was all too short, and he worked almost night and day, including Saturdays and Sundays, that he might in the then required two courses of six months each acquire sufficient learning to presume to treat the sick. In due time he received the degree which made of him a doctor of medicine, and which enabled him, before the days of statutory laws to exercise whatever skill he possessed in any state in the union, an unsuspecting public receiving him with varying

degrees of enthusiasm. Hospital appointments were then few and only available to the most favored, and post-graduate courses in this country had not been established, so that his actual experience at the bedside, other than the few hospital cases seen during his medical course, and the experience obtained while with his preceptor, had to be obtained from his own practice. But he had unlimited confidence in himself and in his ability to cope with disease and suffering.

In the smaller communities he was thrown largely upon his own resources, which made for independence and self reliance, attributes which are not so strongly developed in these later days when the specialist is ever accessible. Unfortunately, the over-development of these attributes all too often went hand in hand with a spirit of intolerance for all who disagreed with him in matters pertaining to either medicine, politics or religion. He was never quite an agnostic in his attitude toward a Higher Power, but I more than surmise that if, in his contemplation of that Power, there appeared in the perspective the dim outlines of a personal God, he honestly associated him with his particular school of medicine.

During the first few years of his practice the question of the where-withal with which to support himself and his family so entirely occupied his mind that he had but little time for outside reading and cultural growth. He was, however, a student of nature, as well as a student of medicine. The dates of the Gospels were of less concern to him than the way in which intelligence comes to the mind and how we are related to God by reason. Biologically he could find no evidence that his compatriots had advanced beyond men of the Homeric period. But he saw in the coloring of birds, in the evolution of plants, and in the mystery of generation positive evidence of a Creator.

Darwin's great theory of the descent of man, which upon its promulgation shook the very foundations of orthodoxy, appealed to him, a student of nature, as the most rational explanation of the origin of man ever put forth. For the time being it clouded his perceptions of a great Author of it all, but his faith in a future life was immeasurably strengthened by Darwin's own words to the effect that, "It is an intolerable thought that man and all other sentient beings are doomed to complete annihilation after such long continued slow progress." But like the Roman god, Terminus, it was necessary for him to see the sky in order to see God, and it was sometimes hard for him to worship God, when nature was obscured by the four walls of a church.

At the end of the first decade of his professional career there developed facial characteristics which enabled even the most casual observer to identify his calling. There was no halo resting upon his brow, for he was very human, though neither better nor worse than the average individual in other walks of life. His work had not robbed him of humor, for he usually saw the humorous side of life, and medicine, with all its sorrow and sadness and bitterness, possesses a humorous side quite ac-

much as does law or theology. But without any of the external insignia of his profession it was entirely possible by the impress which his work had made upon him to define his vocation, if not his specialty. The subtle influences which made this possible are peculiar to the study and practice of medicine. He was less aggressive and less assertive than upon leaving college. He had by studying and observing the progress of disease become, perhaps unconsciously, an inductive philosopher. He was beginning to learn that medicine was full of limitations and uncertainties, and that if he were to keep in touch with progress of human thought, his knowledge must become something more than utilitarian. He therefore began to make incursions into the field of general literature and was delighted to find that in almost every department of thought something was to be learned which broadened his conceptions of life, and made of him a better man and therefore a better physician. He had studied at close range those traits of character which made for good or evil. The constant witnessing of human suffering and depravity had developed in him both sympathy and charity, and the great primal cause of it all awoke in him a new sense of duty and responsibility.

As an evolutionist, the dynamic inter-relations of life, mind and matter, interested him more and more. Accepting Herbert Spencer's definition of life as the simplest and most comprehensive yet enunciated—"Life is a continual adjustment of internal relations to external relations"—he endeavored to adjust his own to conform to that definition. In doing this he was simply complying with the same laws that govern the unicellular organism, the amœba, which in movements apparently purposeless and slothful shrinks on one side from contact with an innutritious grain of sand, while on the other it extends its arms or pseudopodia to embrace a microscopic bit of vegetable matter necessary for its sustenance and nutrition.

If "the pursuit of ends by the choice of means is the mark of mind's presence," as Mr. James teaches, he could not very well gainsay that the amœba, judged by the foregoing conduct, does not present "the marks of mind's presence." And so passing from the unicellular to the multicellular organisms he found that every living thing, either plant or animal, must needs adjust "its internal relations to external relations" or die, and therefore concluded that there is an organic law of the survival of the fittest which applies from monad to man and from savage to philosopher.

As the years passed he anxiously scanned the disclosures of science for the proofs of the origin of life—spontaneous generation, biogenesis, life without life. He read with avidity the writings of Hækel, Lowell and others who have undertaken to solve the problem of the origin of life from the standpoint of materialism but who dismally failed in doing so; annihilation, according to these men, being the ultimate end, a statement which seemed to him contradicted by almost every known biological fact.

When he reached middle life he experienced many new sensations which were very different from those of his earlier years. He became a more profound student of human nature, and if, as Mr. Huxley teaches, "Education is the instruction of the intellect in the laws of nature, under which name is included not merely things and their forces, but men and their ways; and the fashioning of the affections and of the will into an earnest and loving desire to move in harmony with those laws," he had acquired in the great school of experience an education of the highest order. On every hand he saw Nature's penalty for not adjusting "the internal relations to external relations" in the development of disease and premature senility, as well as in the creation of moral depravity. He may or may not have believed in Divine revelation, but his observation and experience made it impossible for him to ignore the fact that the Divine interpretation of things corresponds very closely to nature's interpretation, where he found truth as it came from God. That "the sins of the fathers are visited upon the children even to the third and fourth generation" was forced upon his attention at almost every turn, and were it not for men like Schumann and Chopin and Weber and Leopardi, who had so large a share in the advancement of the human race in spite of inherited diseases like tuberculosis and syphilis, he would at times have become almost discouraged in his efforts to save by medical selection the victims of that immutable law. He saw that modern hygiene is but a greater development of the Mosaic law; and that acquired diseases of all kinds are the penalty of ignoring Nature's laws, either physical or moral. He came to believe that Metchnikoff's conception of orthobiosis, which teaches that the greatest happiness consists in the normal evolution of the sense of life leading to serene old age and not reaching its full satiety under one-hundred years, is no idle dream. The retention of the waste products of metabolism because of insufficient air and exercise, the strain of modern industrial life, the demoralizing effect of alcohol and narcotics, the nervous and cerebral exhaustion incident to anger and envy and jealousy, the suppression of altruistic impulses;—these are a few of the causes which he saw ended in unhappiness and physical suffering and which it was the mission of the physician to contend against. He had only to visit the wards of his hospital to see that "Whatsoever a man soweth that shall he also reap," is nature's if not God's way of visiting his iniquities upon him.

I do not believe that it is presumption on my part to state that, contrary to the general belief, the study and practice of medicine develops a broader sympathy than does any other occupation in the world, for the physician understands the human heart better than does anyone else in the world. He has made a more profound study of the influence of heredity and environment on the development of character than is possible for one not in intimate contact with sick and morbid humanity.

Our Composite Physician was the first to look upon alcoholism as a disease and advocate its treatment as such. He saw the injustice and

inhumanity in punishing the victim of alcoholism as though he were a common criminal. The consequence of this broad humanitarianism is that innumerable cases of alcoholism are now cured that formerly found their way into the asylums and jails. He can perhaps appreciate better than anyone else the world's injustice to woman in making her whom even the Great Physician did not condemn, an outcast because of being overwhelmed by an imperious reproductive instinct,—an instinct without which the great divine comedies of life would never have been written, the great world pictures would never have been painted, the great battles would never have been won, and the great achievements in science and exploration would never have been accomplished. He knows that much of the pessimism of life is because the "courage maker" is sick and that sermons and good resolutions cannot do much until the "courage maker" is put right. He knows that man's mental state is responsible for many of his sensations; that an emotion can make him happy or unhappy; that it may drive away pain and discomfort, and that it can turn grief into joy and make a change in the governing impulse to action that may continue through life. His daily experiences at the bedside impress him more and more as time goes on with the importance of the science of eugenics, if we are to improve the human race both morally and physically. He is constantly humiliated by the fact that the stock breeder exercises infinitely greater care in breeding his horses, cattle, sheep and chickens than does man in breeding men and women.

And so as the years pass by and he approaches the allotted time of man he becomes more liberal in his attitude toward other schools of medicine and other methods of cure. He believes with Richard Henry Savage, "that there is no man, no sect, no single school which can in these broadening days of intelligence tie down the human hearts of the twentieth century to any bounden or grovelling belief." In matters medical his foremost thought is "the greatest possible good for his patient." He comes to believe that all good comes from one great source,—an all-loving Father. He may care but little for religious sects and theological dogmas, but he sees good in all sects and in most religions. He cannot conceive that an all-loving Father would consign His children to the Hades of tradition, but he has nevertheless repeatedly seen the head bowed and the temples frosted by the waywardness and ingratitude of children and friends. On the other hand he has more than once had a glimpse of Heaven through the smile of the young mother when she sees for the first time her newborn babe.

It is not in the least difficult for him to believe in miracles, because he is daily witnessing miracles in his own practice. Indeed the origin of life and the development of the living organism is to him a miracle of miracles. The wonderful resources of nature in contending against disease and the invasion of micro-organism in itself constitutes a miracle. All that he has accomplished in the curing of disease and the relief of suffering has been accomplished by coöperating with nature and by aiding and

assisting Nature's efforts to right the wrongs brought about by ignoring Nature's laws.

He is a lover of all animals and if he were to deny to the lower organisms the possession of mind, it would be hard for him to find the necessary varieties of imperfect deformed and damaged minds to fit the brains of idiots and undeveloped human beings. But he loves best of all his brother man, and, knowing as he does that the great conquests of medicine and surgery of to-day would have been possible without experimentation upon the lower animals, he is a thorough believer in vivisection.

He sees in the closed door which separates the natural world from the spiritual world, which no man has yet opened, an analogous condition in nature in the door which separates the inorganic from the organic. The universe discloses to him through his scientific work a beauty so transcendent that he finds an overwhelming reward simply to behold it. He comes to have an abiding faith that the phenomena of the spiritual world are analogous to the phenomena of the natural world. The function of nature as he understands it is rather to interpret religion than to prove it, and while the spiritual world as it stands in full of perplexity concerning which one can escape doubt only by escaping thought, he sees that the reign of law has gradually crept into every department of nature transforming knowledge into science. And if it is possible to endow the dead atoms of the inorganic or mineral world with the properties of vitality by the bending down into it of some living form in the nature of a plant, so that its minerals and gases are touched with the mystery of life and thereby ennobled and transformed to the living sphere, he finally comes to believe with Mr. Drummond that, "The breath of God going where it listeth touches with its mystery of life the dead souls of men, bears them across the bridgeless gulf between the natural and the spiritual, the spiritual inorganic and the spiritual organic, endows them with its own high qualities and develops within them those new and secret faculties by which those who are born again are said to see the Kingdom of God."

In this great school of experience which I have but barely outlined the men and the women whose memories we to-night cherish and honor were educated. It is a school in which are laid bare the sins and sorrows, the joys and aspirations, the disappointment and failures, the loves and antagonism, and the good and the bad of humanity. The temptation is to hesitate and indulge in individual eulogy, for a number of those whose faces we miss were my warm personal friends and co-workers. Biographical sketches of most of them will or have appeared in the *Institute Journal*. But let us on this occasion drape above them, in imagination, the flag of patriotism and loyalty and as the cortege with muffled drums moves on let us stand with uncovered heads and with hearts full of gratitude for the good they accomplished while with us, for their loyalty and devotion to humanity's cause and for their splendid example of self-

sacrifice and devotion to duty. Let us blot their faults from our memory, for they have them as we have them, not forgetting that, compared with the infinite ages which bridge the Paleozoic period and the present, the time for the perfection of the human soul during the comparatively few years of present life is very short. But to paraphrase a verse of a beautiful poem :

“ Life by life, and love by love,
They passed through the cycles strange.
And breath by breath and death by death,
They followed the chain of change.
Till there came a time in the law of life,
When over the nursing sob,
The shadows broke, and their souls awoke
In a strange dim dream of God.”
The *New England Medical Gazette*, August, 1912.

ANÆSTHESIA— SOME HISTORICAL POINTS.

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MR. PRESIDENT and GENTLEMEN,—The history of the use of various agents to produce anæsthesia, or analgesia, is one of very great interest to the medical profession, and to the laity also be it added, so that I make no further excuse for attempting to give a few points in the history of anæsthesia, and to ask your indulgence if my attempts should lead me into the realms of speculation and surmise, and cause me to take flights into the airy regions of imagination, which is, indeed, very compatible with such a volatile subject, but is not, alas, confined to such a subject only where it is most proper, but has a way of spreading into many walks of life, scientific and otherwise, and is not altogether unknown in the region of Threadneedle Street itself.

Without further preamble let me hasten to say that it is absolutely impossible to say at what period in the history of the world attempts were first made to prevent or relieve physical pain, but it is more than probable that such attempts first began to be made very soon after pains and penalties first began to be felt.

In prehistoric times, no doubt, full surgical anæsthesia, or narcosis, even unto coma and death, was induced previous to the "surgical operation" of "taking away" a wife, by means of a simple cold stone hammer.

All are agreed, who have studied and written on the subject, that the ancient Egyptians, Assyrians and Chinese were familiar with many vegetable substances capable of producing pleasurable, sedative and anodyne effects, and there is no reasonable doubt that they took advantage of such effects when practising the rudimentary surgery of their time.

The earliest record of the use of a nepenthe, or narcotic, is probably the one referred to in the following passage from Homer's "Odyssey" (iv., 220).

"Presently she (Helen) cast a drug into the wine whereof they drank, a drug to lull all pain and anger and bring forgetfulness of every sorrow. Whoso should drink a draught thereof, when it mingled in the bowl, on that day he would let no tear fall down his cheeks, not though his mother and his father died, not though men slew his brother or dear son with the sword before his face, and his own eyes beheld it."

The Bible and the Talmud also contain reference to the ancient practice of inducing torpor or sleep by artificial means.

Herodotus especially makes mention of the custom of the Scythians, of inhaling the fumes of a certain kind of hemp, the effect of which was to produce an exalted mental state followed by sleep.

The earliest allusion to the use of narcotics for deadening pain during surgical operations appears in the writings of *Dioscorides* (native of

Cilicia) physician to Antony and Cleopatra (de *Med. Mat.*, book iv, §76) who lived at the beginning of the Christian Era.

He refers to the practice of boiling in wine the root of the *Atropa mandragora* and of administering a certain quantity of the decoction, "before operations with the knife or actual cautery, that they may not be felt."

Pliny (suffocated on the coast near Vesuvius, when observing the eruptions at age of 56, A. D. 79), too, who was contemporary with Dioscorides, makes similar statements as to the powers of the maudrake, and in addition informs us that the seeds of the rocket plant (*eruca*) were sometimes infused in wine and taken by criminals about to undergo the lash, in order to "produce a certain callousness or hardihood of feeling."

In the second century *Galen* (lib. vii, p. 20) (died in his 90th year, at Pergamos his native town) makes mention of the "power of the mandragora to paralyse sensation and motion."

According to a French author (*see* "On Chloroform and other Anæsthetics," by John Snow, M.D.), there flourished in the third century a Chinese surgeon named "Ho-a-tho," who was in the habit of stupefying his patients and possibly rendering them unconscious during surgical operations by administering to them a preparation of hemp.

Surgeons in the middle ages, no doubt, habitually produced degrees of stupefaction or insensibility by some drug, as is evident from the following passage from a poet Du Bartas, who lived in the middle of the sixteenth century.

“Even as a surgeon minding off to cut
Some cureless limb, before in use he put
His *violent engines* on the vicious member,
Bringeth his patient in a senseless slumber,
And griefless then, guided by use and art
To save the whole, cuts off the affected part.”

In the year 1540, Valerius Cordus discovered *sulfuric ether*, but its *narcotic* properties were not recognized until three centuries later.

We are informed that in 1589, *Gianbattista Porta*, a surgeon who practised in Naples, used an essence made from hyoscyamus, solanum, poppy and belladonna, enclosed in a leaden vessel and: "The lid being opened the patient would draw in by breathing the most subtle strength of the vapour, so that thereby he would be buried in a most profound sleep. nor be aware of what had been done to him."

Early in the seventeenth century. *Shakespeare* ("Cymbeline," Act I, sc. 5), makes Cornelius, a Court physician, prescribe a drug which

“ Will stupefy and dull the sense awhile ;
 but there is
 No danger in what show of death it makes,
 More than the looking up the spirits a time,
 To be more fresh, reviving.”

Here we have, with Shakespeare's usual genius and "much before his time" insight, an intelligent anticipation of a good sound dosimetric chloroform vapour administration (of not greater than 4 or 5 per cent.) Where the patient has been well prepared for operation, having fair general health, and where indeed the almost *immediate* condition of the patient having *had* the spirits locked up for a time, is "more fresh, reviving."

Alas, it is not quite *always* that such results obtain in even our twentieth century methods.

It was also about this time (early seventeenth century) that attempts were made in Italy, and particularly by *Valvedi*, to obtain unconsciousness by compression of the vessels of the neck—a procedure which is said to have been employed by the ancient Assyrians when circumcising children (Claude Bernard).

In 1661, *Greutrades* produced "magnetic sleep" by means of stroking and making passes over the patient's body. A century later, in 1776, *Anthony Mesmer* evolved his theory of "*animal magnetism*" in a work on "The Influence of the Planets in the Cure of Disease." After an almost equal lapse of time James Braid (not the golfer!), of Manchester, in 1843, inaugurated modern hypnotism by the publication of his treatise on "*Neurypnology, or the rationale of Nervous sleep.*"

A few years later, while practising in India, *Esdaille* successfully induced hypnotic anæsthesia in a large number of native subjects, performing upon them a variety of surgical operations many of which were of a severe character ("*Natural and Mesmeric Clairvoyance, with the Practical Applications of Mesmerism in Surgery and Medicine,*" by James *Esdaille*, M.D., 1852).

Hypnotic anæsthesia has now, fortunately, been relegated to the region of disuse, as it is not sufficiently reliable to be of any special practical value.

It was not until the very *close* of the eighteenth century that our modern system of anæsthesia began to be foreshadowed. Up to this time the various means which had been adopted for the prevention of pain during surgical operations had been utterly unreliable. In other words, *true anæsthesia*, in the modern sense of the term, had never been attained.

But the discovery of *hydrogen* by Cavendish (1766), of *nitrogen* by Rutherford (1772), of *oxygen* by Priestley (1774), and of *nitrous oxide* by the last-named observer, about the same date, marked the beginning of a new era in chemical physics, and paved the way for the introduction into medical practice of a new, precise, and reliable system of inducing the most complete unconsciousness, and of maintaining this state for any reasonable time without injurious consequences. The medical world gladly welcomed the idea of the therapeutic employment of gases and vapours. Thus in 1795, we find Dr. Pearson, of Birmingham, employing *ether* by an inhalation for the relief of *asthma*.

In 1798, a "Pneumatic Institute" was inaugurated at Clifton by Dr. Beddoes, and in this institute he proposed to treat phthisis and many other diseases by the inhalation of gaseous and vaporized substances. Mr. (afterwards Sir) Humphry Davy was then Dr. Beddoes' assistant, and carefully studied the action of nitrous oxide. On one occasion, when suffering from the painful eruption of a *wisdom tooth*, he inhaled this gas and found the pain was thereby considerably mitigated. In 1800 he wrote :—

"As nitrous oxide in its extensive operation appears capable of destroying physical pain, it may probably be used with advantage during surgical operations in which no great effusion of blood takes place."

It is curious, indeed, that this important suggestion was not turned to practical account till nearly *half a century* later.

As the effects produced by these various gases became more generally known, distinct points of similarity began to appear between nitrous oxide and ether: the exhilaration and hilarity produced by the former led to the term "laughing gas."

In 1818 an article, believed to have been written by *Faraday*, appeared in the *English Quarterly Journal of Science and Arts* (Lyman), containing the following interesting passage :—

"When the vapour of ether mixed with common air is inhaled it produces effects very similar to those occasioned by nitrous oxide . . . it is necessary to use caution in making experiments of this kind. By the imprudent inspiration of ether a gentleman was thrown into a very lethargic state, which continued, with occasional periods of intermission for more than thirty hours."

It was not an uncommon event about this time, for lectures upon scientific subjects to practically demonstrate the intoxicating properties of ether; and, owing to the pleasurable sensations which the vapour produced, it became customary, particularly in certain country districts of the United States of America, for young people to engage in so-called "ether frolic," and it is, indeed, to this latter circumstance that the discovery of surgical anæsthesia may be traced, although it is difficult, if not absolutely impossible, to decide to whom the chief credit of the discovery of ether vapour anæsthesia is due.

There seems no reasonable doubt that in 1842, *Dr. Crawford W. Long*, a country practitioner of Jefferson, Jackson county, Georgia, U.S.A., administered ether vapour with the distinct object and fortunate result of producing insensibility to pain during a surgical operation which he performed, and that he subsequently employed the same means with equal success. Long and his assistants had been in the habit of occasionally inhaling ether for amusement, and, noticing that *bruises* had been unconsciously sustained, not only by himself but by his assistants while in a state of ether intoxication, Long decided to test the anæsthetic effects of the vapour in surgical practice.

It appears, however, that he took no steps to make his important results known beyond the immediate circle in which he lived ; and it was not until some years later, when the rival claims of others were being hotly contested, that his own were brought forward and substantiated.

The next step in the evolution of anæsthesia took place in 1844, when Davy's predictions regarding the future of nitrous oxide in surgery became for the first time realized. In this year *Horace Wells*, a dentist of Hartford, Connecticut, was present at a popular entertainment given by a lecturer on chemistry named Colton, and noticing, as Long had done in the case of ether, that one of the audience who had inhaled "laughing gas" had *unconsciously* sustained injuries while under its influence, he determined to test its merits as an anæsthetic in dentistry. He accordingly inhaled some of the gas, and a friend of his extracted a tooth for him without the slightest pain being felt. The result was so marvellous that Wells immediately began to employ nitrous oxide in his own practice, and so convinced was he of the importance of his discovery that he soon gave a public demonstration in the surgical theatre of the *Harvard Medical School*.

Owing, however, to the want of knowledge, which necessarily prevailed, as to the principles on which the administration should be conducted the demonstration proved a *fiasco*, and both Wells and his anæsthetic fell into undeserved discredit. For some time, however, Wells continued to use nitrous oxide in his practice, and with considerable success ; but so keenly did he feel the contumely of his fellows and the failure of his hopes and schemes, that on January 14, 1848, he committed suicide. It is stated that he opened a vein whilst in his bath, at the same time securing euthanasia by the inhalation of ether vapour.

The year 1846 is memorable as having witnessed the next advance, *i.e.*, the recognition and dissemination of the fact that by the inhalation of ether vapour complete surgical anæsthesia could be produced. In this year Dr. T. G. Morton consulted Horace Wells as to the manufacture of nitrous oxide. Wells referred him to a well-known chemist, Dr. Charles Jackson who suggested using *sulphuric ether* instead of oxide as being far easier to obtain. Acting on this suggestion and unaware of Long's results, Morton administered sulphuric ether vapour in two or three dental cases, and with such success that he gave a public demonstration of his discovery in the General Hospital of Massachusetts on October 17, 1846, a Dr. Warren operating ; this time the results were excellent. Morton tried to keep the invention secret, securing a patent and calling it "*Lætheon* ;" fortunately this plan proved futile owing to its tell-tale odour.

Bigelow soon detected its nature and at once sent the news to London, from which centre it has of course spread all over the civilized world.

From these facts it will be seen that the credit of the discovery of surgical anæsthesia cannot be ascribed to any one individual. Long,

Wells, Morton, and Jackson, of whom America may well be proud, were all instrumental in the great work.

The first operation performed in England under a *general anæsthetic* took place at the house of Dr. Boot, in Gower Street, London, on December 19, 1846. Boot had received the news of the discovery of ether anæsthesia from Bigelow, and he communicated this news to Mr. Robinson a neighbouring dentist, who devised an apparatus to inhale the vapour, and used it on a dental case where a tooth was extracted without inflicting the slightest pain. Two days later Mr. Squire administered ether to two patients at University College Hospital, Mr. Liston amputating a thigh in one case and removing an in-growing toe-nail in the other.

On January 19, 1847, Dr. (subsequently Sir) J. Y. Simpson, used ether for the first time in midwifery practice, finding that the pains might be wholly abolished without interfering with uterine contraction.

Flourens announced to the *Académie des Sciences* that chloroform exerted on the lower animals an anæsthetic action analogous to that of ether, but strangely enough little or no notice appears to have been taken of this observation. Later in the same year Simpson, who had been trying to find some less irritating and more convenient anæsthetic, happened to consult Mr. Waldie, a scientific chemist of Liverpool, who suggested that chloroform, one of the constituents of "*chloric ether*" might be tried with advantage. Attempts had already been made to induce anæsthesia by means of the vapour of chloric ether, but of course unsuccessfully.

Simpson soon satisfied himself that the vapour of chloroform was capable of producing anæsthesia, and he lost no time in benefiting others by the discovery he had thus made.

On November 10, 1847, he read a paper entitled "*Notice of a New Anæsthetic Agent as a Substitute for Ether in Surgery and Midwifery.*" And as a result of this and his subsequent writings, chloroform rapidly began to supplant ether in general surgery.

Flourens in 1847 also drew attention to the anæsthetic properties of *ethyl chloride*, and about twelve months later Heyfelder first administered its vapour for a surgical operation.

It was not until 1895, however, that ethyl chloride became a recognized general anæsthetic. The first attempts to place chloroform and ether administrations on a sound and scientific basis were made by Dr. John Snow, whose classical work "*On Chloroform and other Anæsthetics,*" was published in 1858. Later Snow's work was carried on very ably by Mr. J. T. Clover, whose mechanical ingenuity was so great as to evolve an ether vapour apparatus for producing anæsthesia, which is commonly used at the present time.

In the year 1862 Clover published an account of his chloroform inhaler by which definite percentages of chloroform vapour and air could be

given ; and this method is undoubtedly the most scientific and safe,* and comfortable method of producing-chloroform anæsthesia to-day, and is used in the apparatus of Dubois, Vernon Harcourt and Co. The only drawback to such apparatus from the point of view of practical utility is their *cost* or *complexity* or *un-portability*.

In conclusion it is evident that the whole subject of anæsthesia is in a state of evolution *still*, and our *armamentarium* of *proved* new discoveries, and of more perfect knowledge in the application of the older methods, is steadily increasing. We now have in addition to the *general anæsthesia* by means of such a gas as nitrous oxide, vapours of ether, chloroform and ethyl chloride, general anæsthesia by means of *scopolamine* and *morphine*, according to the *local* infiltration analgesic method of Schleich and Braun, which is applied to nerve endings ; the local or regional anæsthesia by hypodermic injection of cocaine and its analogues and Bier's ingenious method of spinal anæsthesia. All these methods have their use, and doubtless, their *abuse*, and it is for us to see to it that we use all knowledge at our disposal to avoid the abuse and to bring in a more perfect *use*.—The *British Homœopathic Journal*, June, 1912.

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